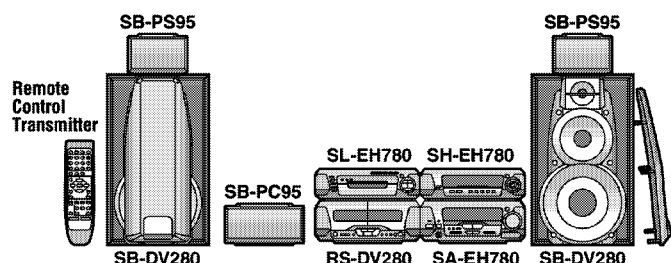


Service Manual

Tuner/Amplifier



SA-EH780GN

Colour

(N).....Gold Type

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

System	SC-EH780
Sound Processor	SH-EH780
Tuner/Amplifier	SA-EH780
CD Changer	SL-EH780
Cassette Deck	RS-DV280
Front Speakers*	SB-DV280
Center Speaker*	SB-PC95
Surround Speakers*	SB-PS95

* : Made in Singapore.

Specifications

Amplifier section

Power output (L/R both channel driven):

Stereo mode;

DIN	1 kHz, THD 1 % (High);	2 × 25 W (6 Ω)
	100 Hz, THD 1 % (Low);	2 × 45 W (8 Ω)
RMS	1 kHz, THD 10 % (High);	2 × 35 W (6 Ω)
	100 Hz, THD 10 % (Low);	2 × 65 W (8 Ω)

PRO LOGIC mode;

DIN	FRONT	1 kHz, THD 1 % (High);	2 × 25 W (6 Ω)
		100 Hz, THD 1 % (Low);	2 × 45 W (8 Ω)
	SURROUND	1 kHz, THD 1 %;	2 × 30 W (8 Ω)
	CENTER	1 kHz, THD 1 %;	60 W (8 Ω)
RMS	FRONT	1 kHz, THD 10 % (High);	2 × 35 W (6 Ω)
		100 Hz, THD 10 % (Low);	2 × 65 W (8 Ω)
	SURROUND	1 kHz, THD 10 %;	2 × 40 W (8 Ω)
	CENTER	1 kHz, THD 10 %;	80 W (8 Ω)

PMPO 1 kHz; 3,000 W
(High 6 Ω, Low, CENT., SURR. 8 Ω)

Total harmonic distortion:

Rated power at 1 kHz;	1 % (6 Ω)
Half power at 1 kHz;	0.1 % (6 Ω)

Load impedance:

FRONT (High);	6 Ω
(Low);	8 Ω
SURROUND;	8 Ω
CENTER;	8 Ω

DIGITAL S.WOOFER:

Center frequency;	60 Hz
LEVEL (VOL-20 dB);	MID +3 dB, MAX +6 dB

FM tuner section

Frequency range:

87.50 – 108.00 MHz (0.05 MHz steps)

Sensitivity:

1.8 μV (IHF usable)

S/N 26 dB:

1.5 μV

S/N (MONO):

70 dB (75 dB, IHF)

Antenna terminal(s):

75 Ω (unbalanced)

AM tuner section

Frequency range:

522 – 1629 kHz (9 kHz steps)

520 – 1630 kHz (10 kHz steps)

500 μV/m

Sensitivity (S/N 20 dB):

Timer section

Clock:

Quartz - lock type

Function:

Play timer (1 time, daily), Rec timer (1 time, daily),

Sleep (120 min, 30 min intervals)

Setting intervals (Play/Rec):

1 minute – 23 hours 59 minutes
(1 min intervals)

General

Power supply:

AC 230 – 240 V, 50 Hz

Power consumption:

190 W

Standby;

0.5 W

Dimensions (W×H×D):

293×118.5×345 mm

Mass:

5.2 kg

Notes: Specifications are subject to change without notice.

Mass and dimensions are approximate.

Total harmonic distortion is measured by the digital spectrum analyzer.

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics

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1 Before Repairs

1. Turn off the power supply. Using a 10 Ω , 10 W resistor, connect both ends of power supply capacitors (C701, C703 and C702, C704) in order to discharge the voltage.
2. Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 240 V.

Power supply voltage	AC 240 V
Consumed current 50 Hz	100 - 350 mA

2 Protection Circuitry

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is switched ON.
- Sound stops during a performance.

The functions of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are shorted, or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedures outlined below.

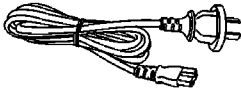
1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:

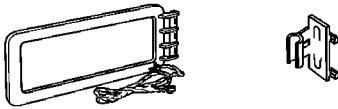
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

3 Accessories

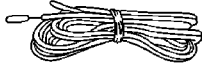
- AC mains lead
(RJA0035-2X).....1 pc.



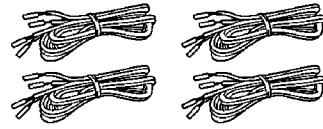
- AM loop antenna set
(RSA0022-L).....1 pc.



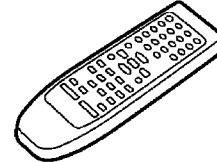
- FM indoor antenna
(RSA0006-J).....1 pc.



- Speaker leads
(REE0853).....2 pcs.
(REE1057).....2 pcs.

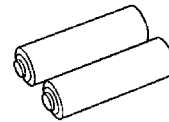


- Remote control
(EUR7702060).....1 pc.



- Remote control batteries
(R6/LR6, "AA", UM-3).....2 pcs.

Note: These are available on sales route.



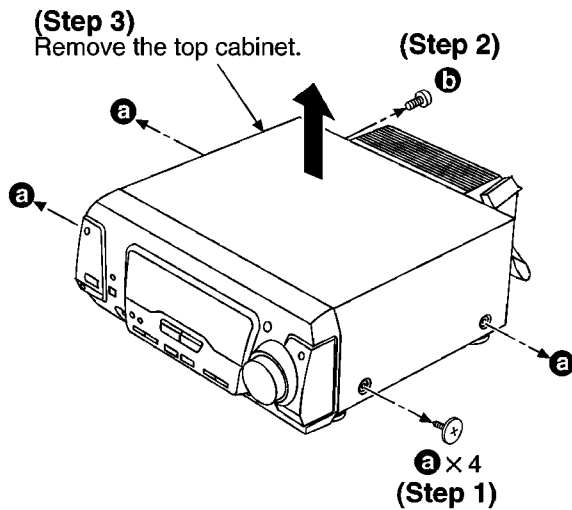
5 Operation Checks and Component Replacement Procedures

Note:

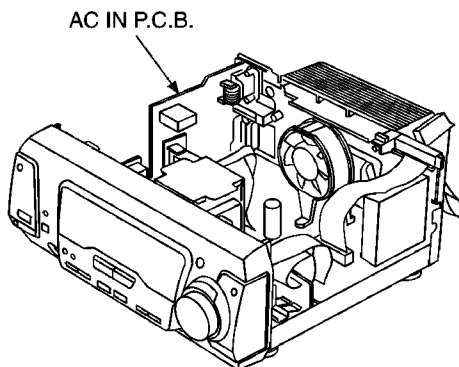
Although this unit has the microphone P.C.B., this section does not describe procedures about it.

- This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
- For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

5.1. Checking for the AC IN P.C.B.

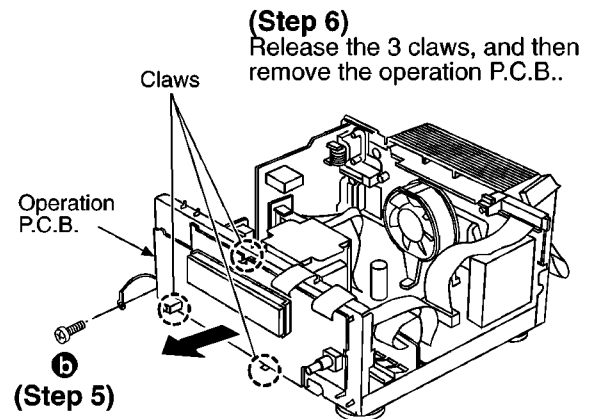
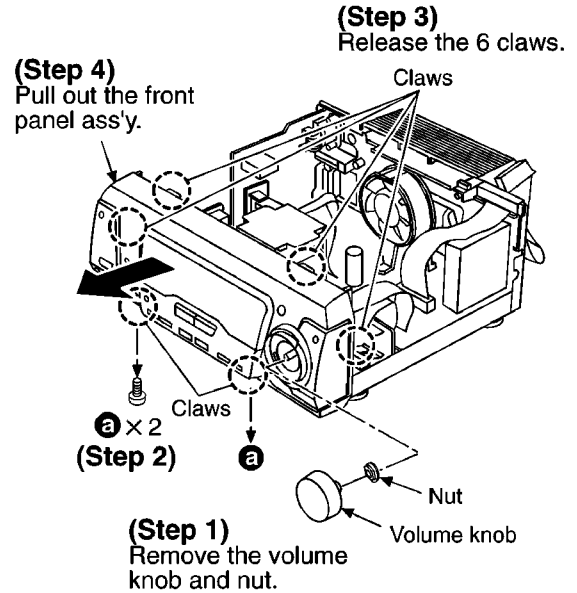


- Check the AC IN P.C.B. as shown below.

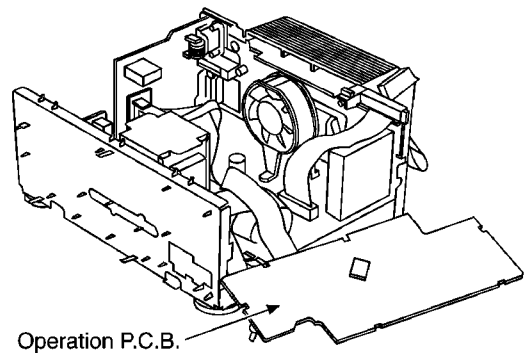


5.2. Checking for the operation P.C.B.

- Follow the (Step 1) - (Step 3) of item 5.1.

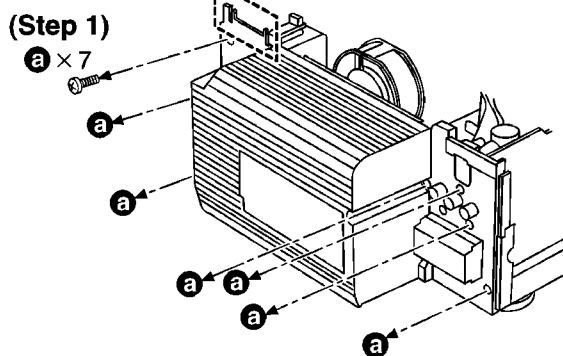
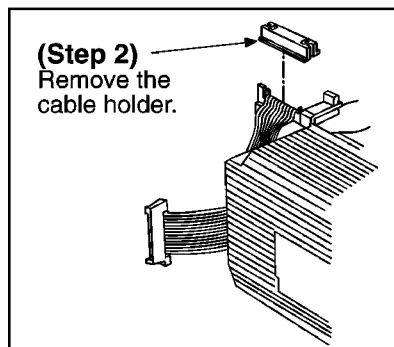


- Check the operation P.C.B. as shown below.

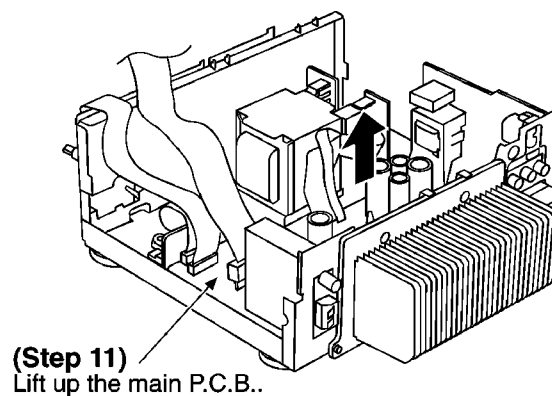
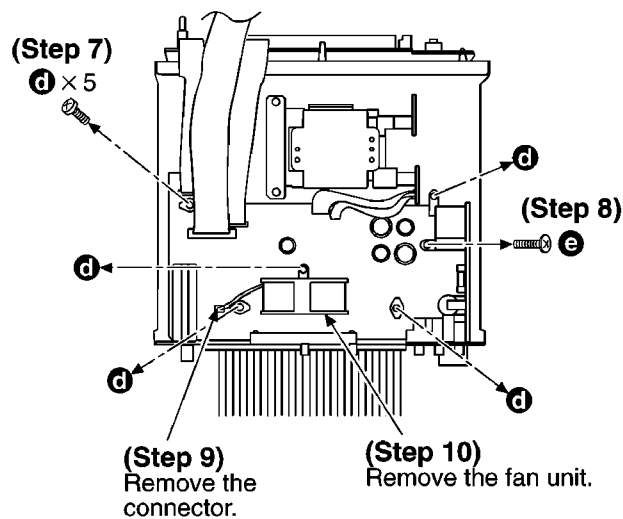
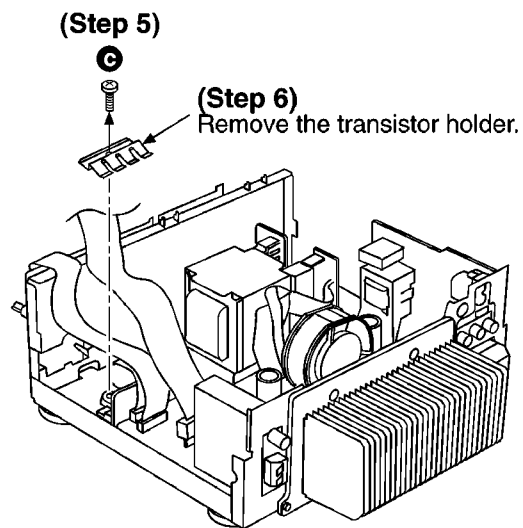
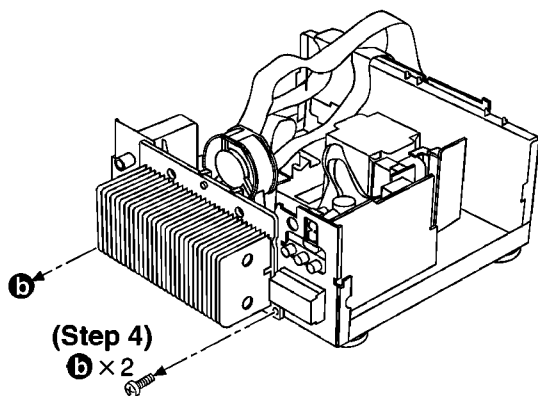
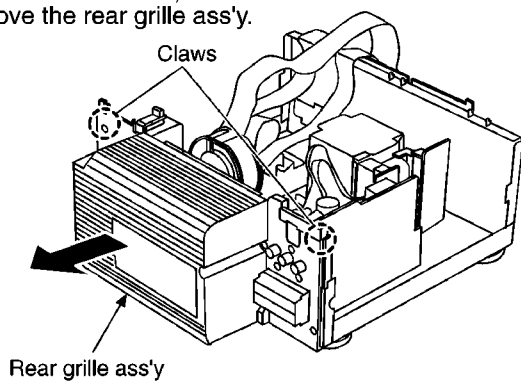


5.3. Checking for the main P.C.B.

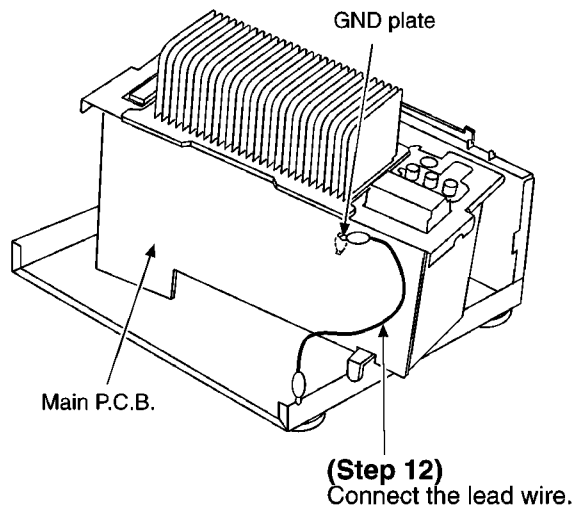
- Follow the (Step 1) - (Step 3) of item 5.1.
- Follow the (Step 1) - (Step 6) of item 5.2.



(Step 3)
Release the 2 claws, and then remove the rear grille ass'y.

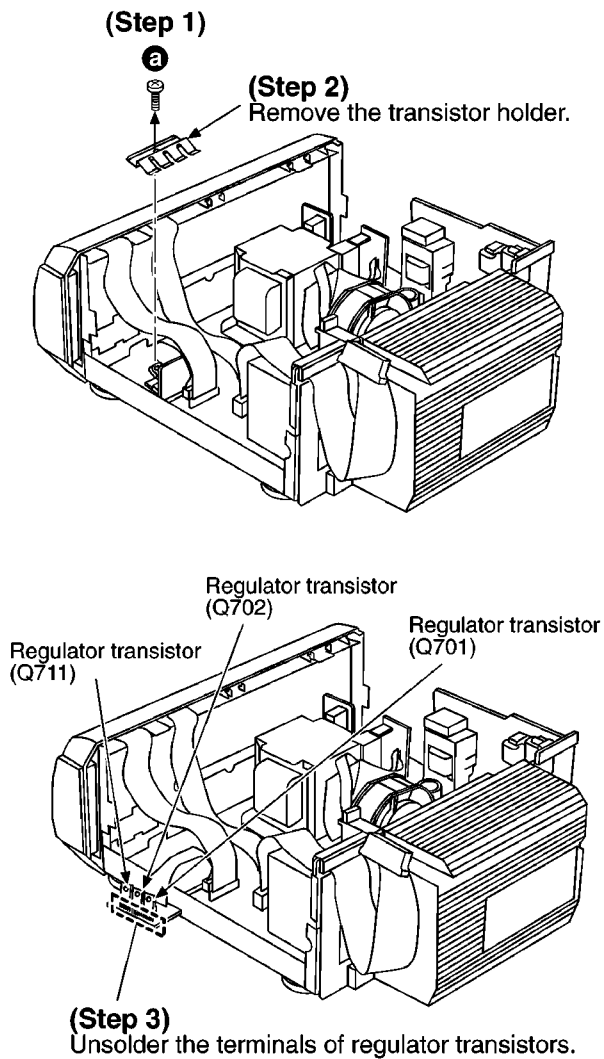


- Check the main P.C.B. as shown below.



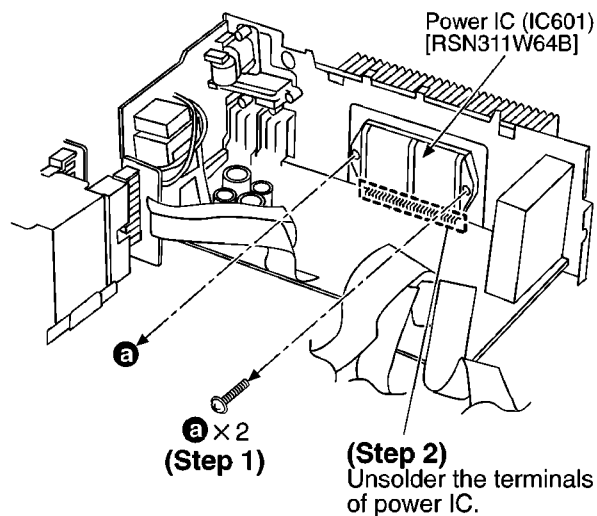
5.4. Replacement for the regulator transistor

- Follow the (Step 1) - (Step 3) of item 5.1.



5.5. Replacement for the power IC

- Follow the (Step 1) - (Step 3) of item 5.1.
- Follow the (Step 1) - (Step 6) of item 5.2.
- Follow the (Step 1) - (Step 11) of item 5.3.



NOTE:

When mounting the power IC apply silicone compound (RFKX0002) to the rear side of power IC.

6 To Supply Power Source

This unit is designed to operate on power supplied from system connected.
For system connection, refer to Fig. 6-1.

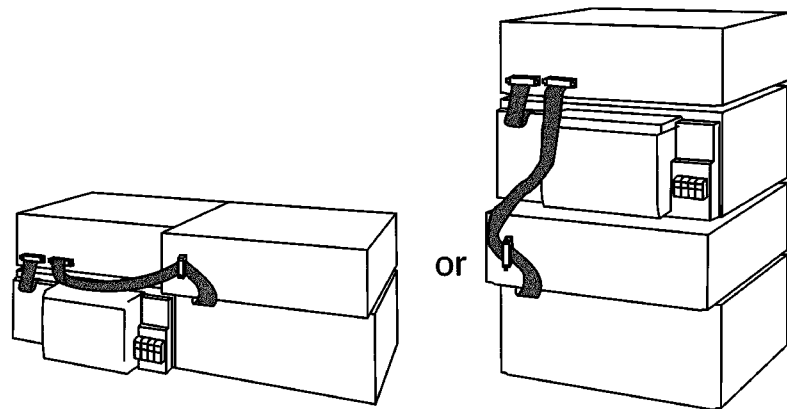


Fig. 6-1.

When the unit has to test and service alone, use the following method to supply power source.

1. Short the section between **W902A Pin 3** and **C740 (-) (GND)**. (Refer to Fig. 6-2.)
2. Connect this unit to an AC mains lead.
(This unit come to stand-by mode.)
3. Turn the unit ON.

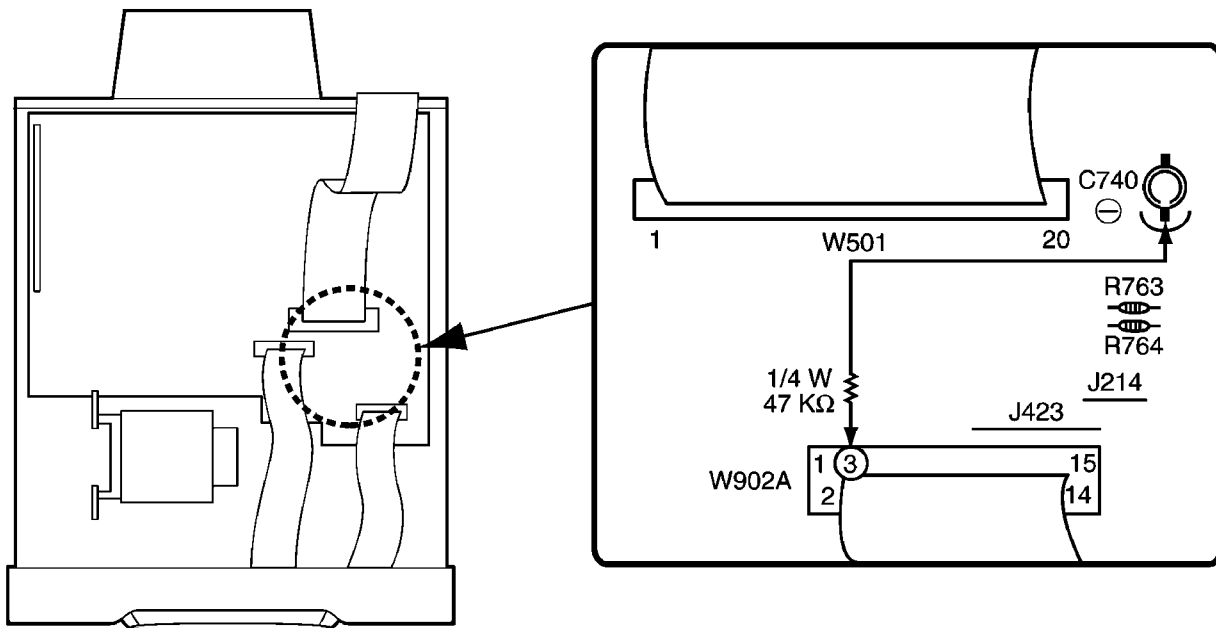


Fig. 6-2.

Notes:

Use only this method when checking the voltage etc..

In case of checking the operations, use the system connections to supply power source.

7 Self-Diagnostic Function

This unit is equipped with a self-diagnostic function which, in the event of a malfunction, automatically displays a code indicating the nature of the malfunction.

Use this self-diagnostic function when servicing the unit.

7.1. To display the malfunction code

- U70 CD:** Automatically displays on the tuner/amplifier when a malfunction occurs. Refer to Fig. 7-1.
- U70 DECK:** Automatically displays on the tuner/amplifier when a malfunction occurs. Refer to Fig. 7-1.
- F61:** Automatically displays on the tuner/amplifier when a malfunction occurs. Refer to Fig. 7-1.

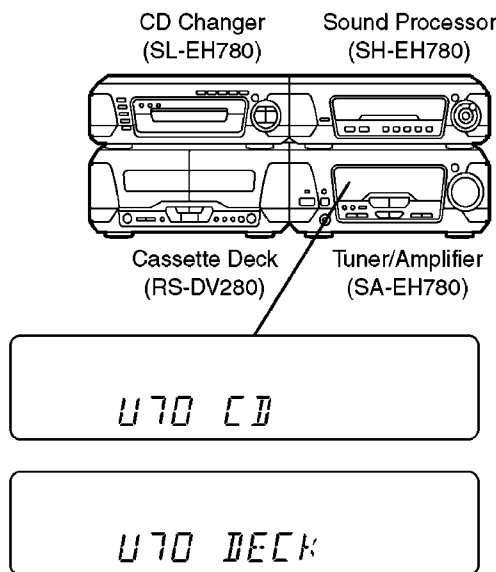


Fig. 7-1.

7.2. To return to the normal display

1. For U70 CD/U70 DECK

- Press any operation button on the tuner/amplifier.
- To re-display the code, switch the power off (POWER STANDBY button), and then switch power back on again.

2. For F61

- If F61 is displayed, the power will automatically be switched off and the standby indicator will light up.
- F61 will be displayed for 3 seconds, and then the clock will be displayed.
- To re-display the code, switch the power on. F61 will be re-displayed, and then after 3 seconds the clock will be displayed and the power will automatically switch off.

7.3. Display contents

7.3.1. U70 CD/U70 DECK (displayed automatically)

• Problem or condition

A bus-line communications error has occurred as a result of the flat cables being inserted incorrectly, thus preventing the system from operating.

- If U70 is displayed on the tuner/amplifier, the tape deck or CD Changer cannot be operated by remote control.

• Correction Procedure

1. To check for correct insertion of flat cables.

- Insert each connector until you hear a click.
- Insert the flat cables at the back of the unit in the order indicated. Refer to Fig. 7-2.

Make sure the white side of the cables is on your right side. Refer to Fig. 7-3.

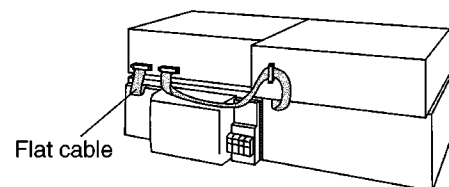


Fig. 7-2.

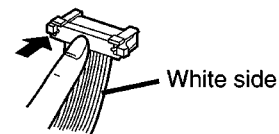


Fig. 7-3.

2. Breakage of flat cables. (Check and replace.)
3. If the problem is not corrected by items 1 and 2 above, this indicates a faulty IC.

SA-EH780:

IC901 (C2BBFD000317)

SL-EH780:

IC451 (C2BBFD000256)

RS-DV280:

IC701 (M38503M2406F)

Check these ICs and replace.

7.3.2. F61

• Problem or condition

When the power switch is switched on, it automatically switches back off, making it impossible to switch power on.

• Correction procedure

Faulty Tuner/Amplifier (SA-EH780) output IC (IC601). (When a DC voltage is applied to speaker terminals.)

8 Schematic Diagram Notes

- This schematic diagram may be modified at any time with the development of new technology.

Notes:

S901:	Power standby/on switch ()
S902:	Clock/timer switch (CLOCK/TIMER)
S903:	Demo switch ( DEMO)
S904:	Play timer/record timer switch ( PLAY/  REC)
S905:	FM mode switch (FM AUTO/MONO)
S906:	Tuning mode switch (TUNING MODE)
S907:	Set switch (SET)
S908:	Source input switch (INPUT SELECTOR)
S909:	6 ch discrete input switch (6 CH DISCRETE ININPUT)
S910:	Tuning down switch (TUNING, )
S911:	Tuning up switch (TUNING, )
S912:	Tuner/band switch (TUNER/BAND)
S913:	Digital super woofer switch (DIGITAL S.WOOFER)
S914:	Karaoke switch (KARAOKE)
S915:	Echo switch (ECHO)
VR401:	Microphone volume control VR (MIC VOL)
VR901:	Volume control VR (VOLUME)

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

No mark : Power ON (FM or AM)

- Important safety notice:

Components identified by  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- The supply part number is described alone in the replacement parts list.
- Voltage and signal line

	: Positive voltage line
	: Negative voltage line
	: AM signal line
	: AM OSC signal line
	: FM signal line
	: FM OSC signal line
	: Audio signal line
	: MIC signal line

Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

Cover the parts boxes made of plastics with aluminum foil.

Ground the soldering iron.

Put a conductive mat on the work table.

Do not touch the legs of IC or LSI with the fingers directly.

9 Schematic Diagram

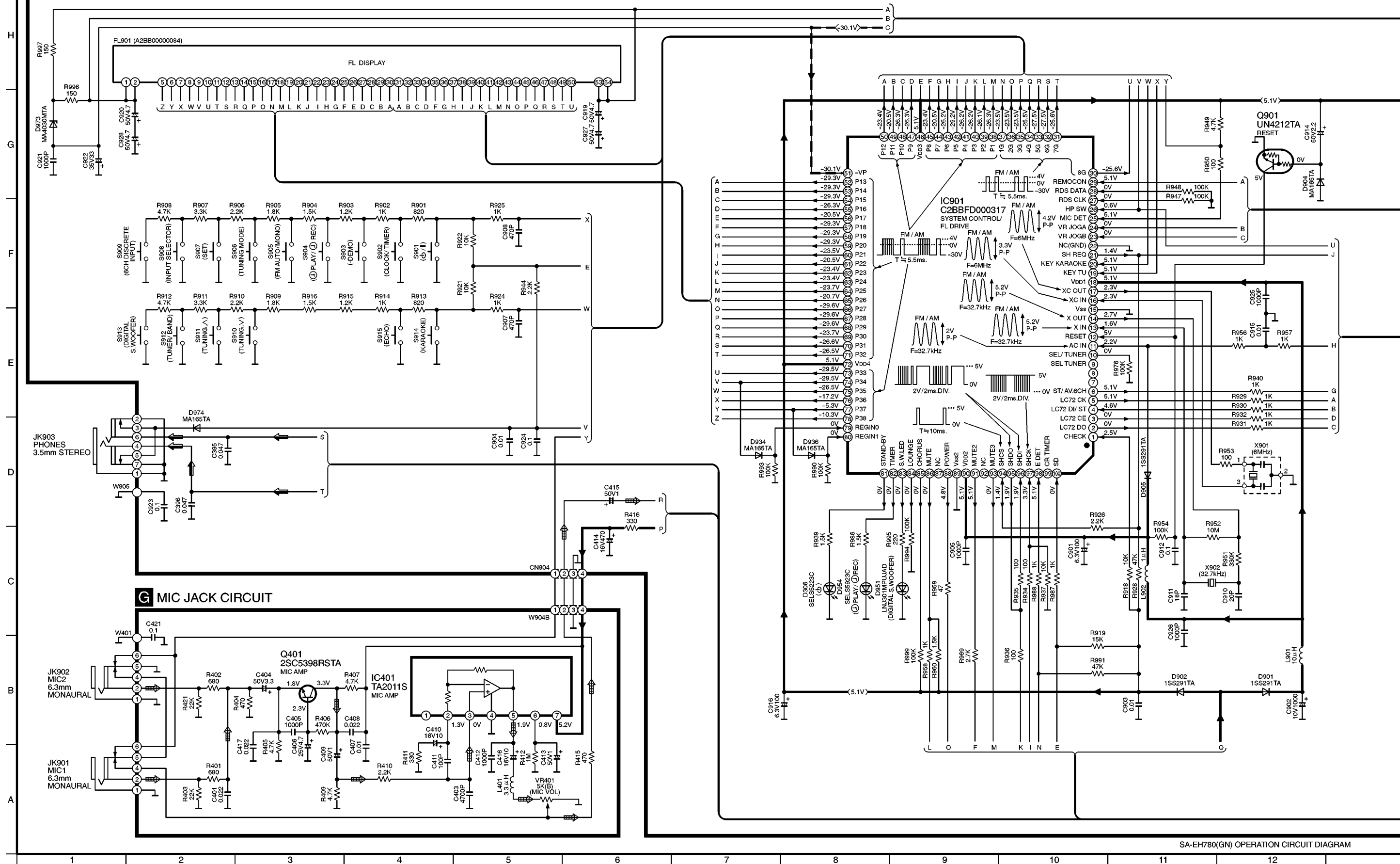
SCHEMATIC DIAGRAM-1

A OPERATION CIRCUIT

NOTE:

The number which noted at the connectors on the schematic diagram as "SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2" indicates the schematic diagram serial number located on the left corner in the schematic diagram.

→ : POSITIVE VOLTAGE LINE → : NEGATIVE VOLTAGE LINE → : AUDIO SIGNAL LINE → : MIC SIGNAL LINE

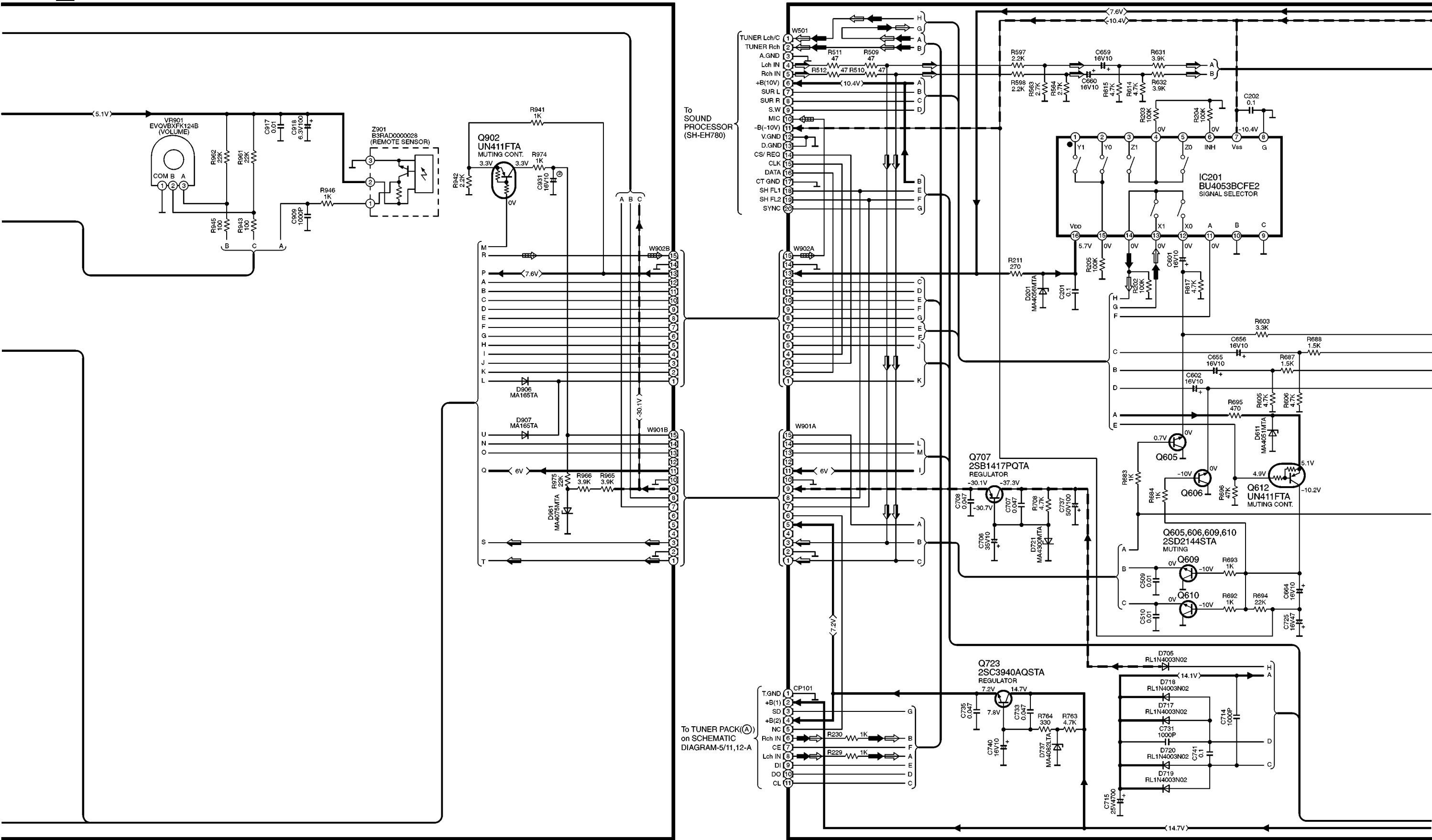


SA-EH780(GN) OPERATION CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-2
A OPERATION CIRCUIT

--- : NEGATIVE VOLTAGE LINE ⇨ : FM SIGNAL LINE ⇨ : MIC SIGNAL LINE
--- : POSITIVE VOLTAGE LINE ⇨ : AM SIGNAL LINE ⇨ : AUDIO SIGNAL LINE

B MAIN CIRCUIT

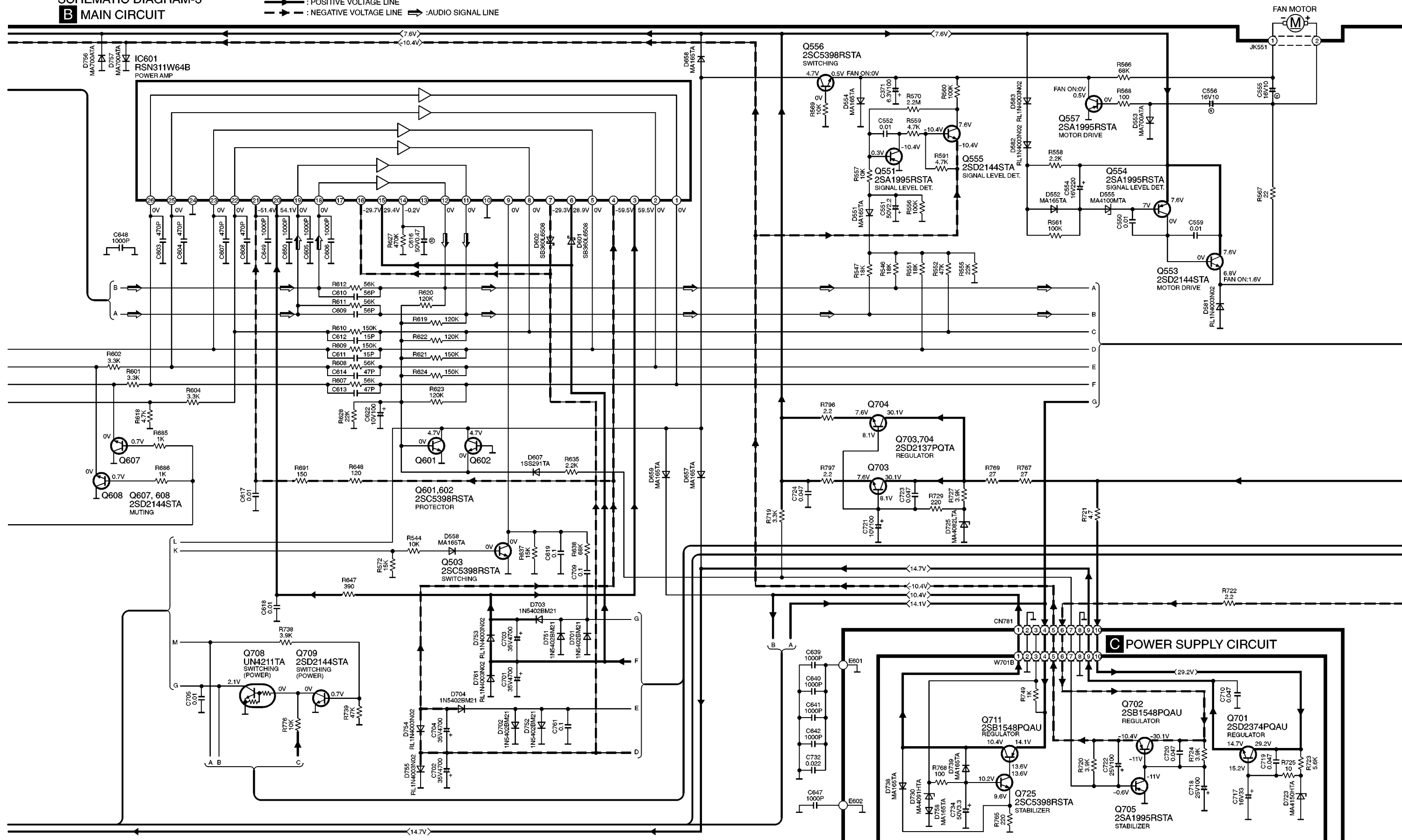


SA-EH780(GN) OPERATION, MAIN CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-3

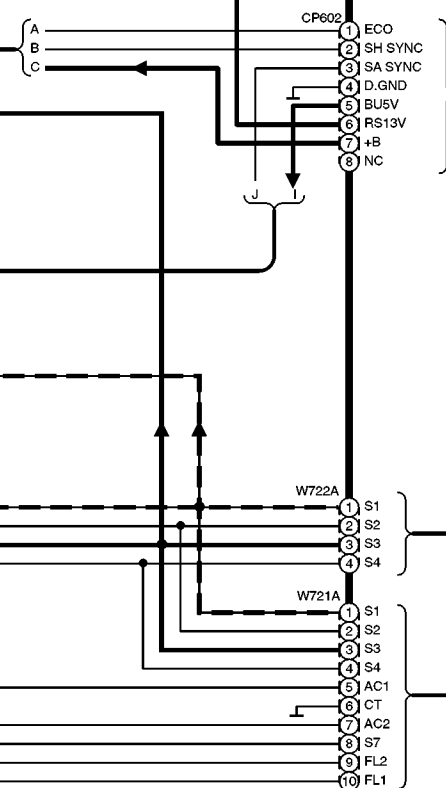
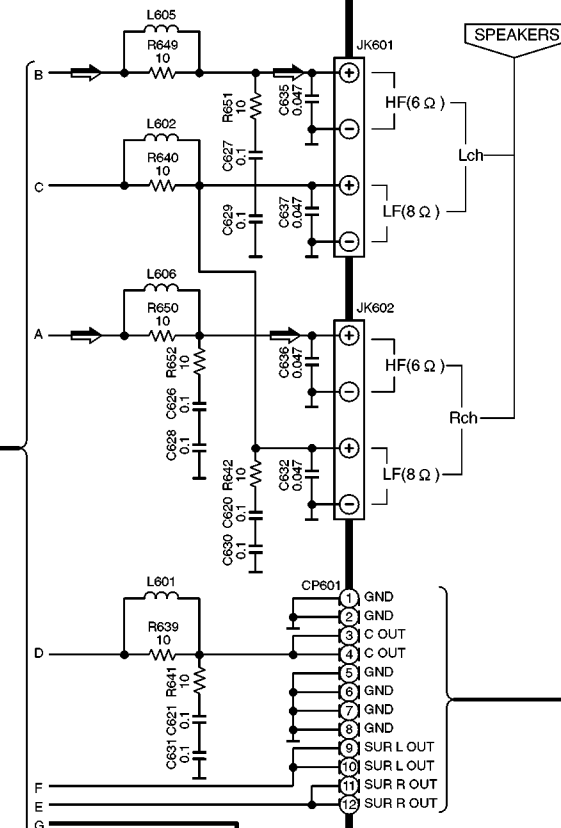
B MAIN CIRCUIT

— : POSITIVE VOLTAGE LINE
 - - - : NEGATIVE VOLTAGE LINE ➡ : AUDIO SIGNAL LINE

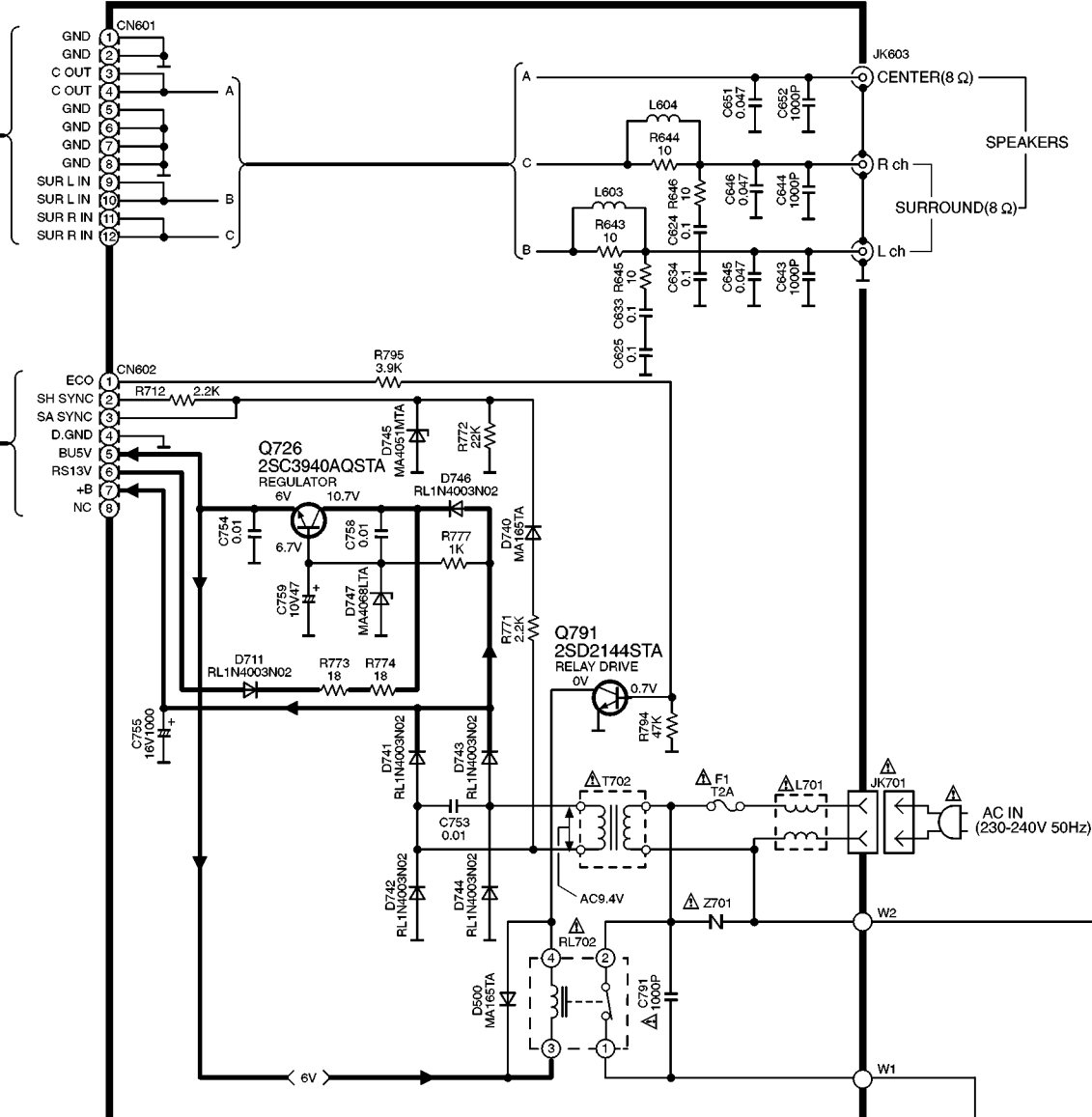


SA-EH780(GN) MAIN, POWER SUPPLY CIRCUIT DIAGRAM

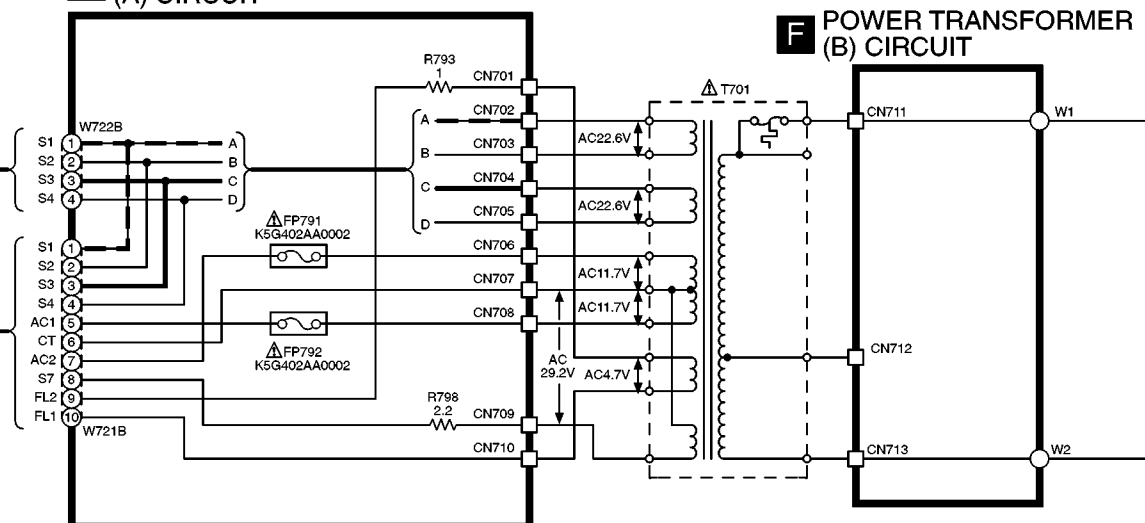
 : POSITIVE VOLTAGE LINE
 : NEGATIVE VOLTAGE LINE  : AUDIO SIGNAL LINE



D AC IN CIRCUIT

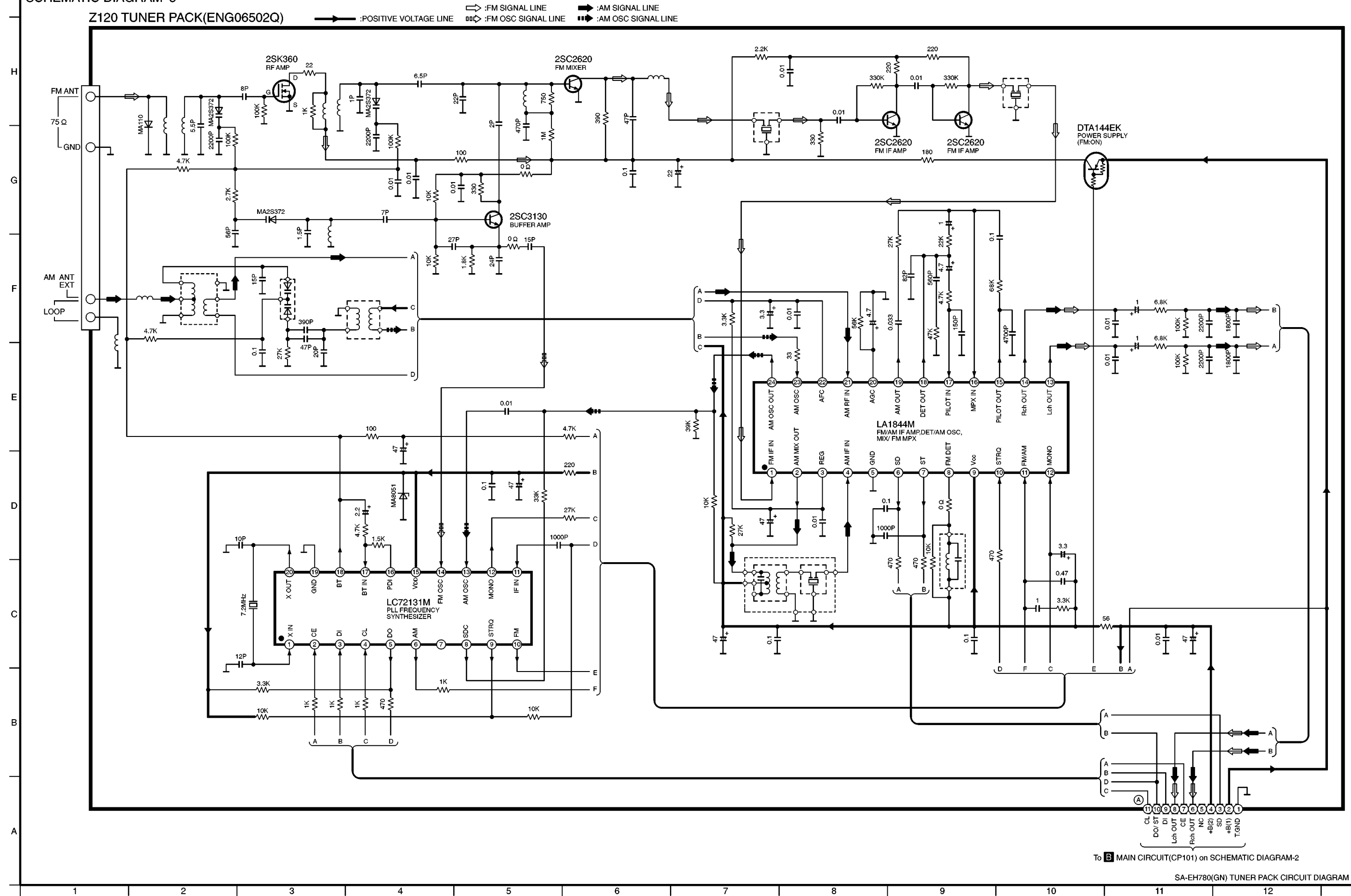


F POWER TRANSFORMER
(B) CIRCUIT



SA-EH780(GN) MAIN, AC IN, POWER TRANSFORMER(A),(B) CIRCUIT DIAGRAM

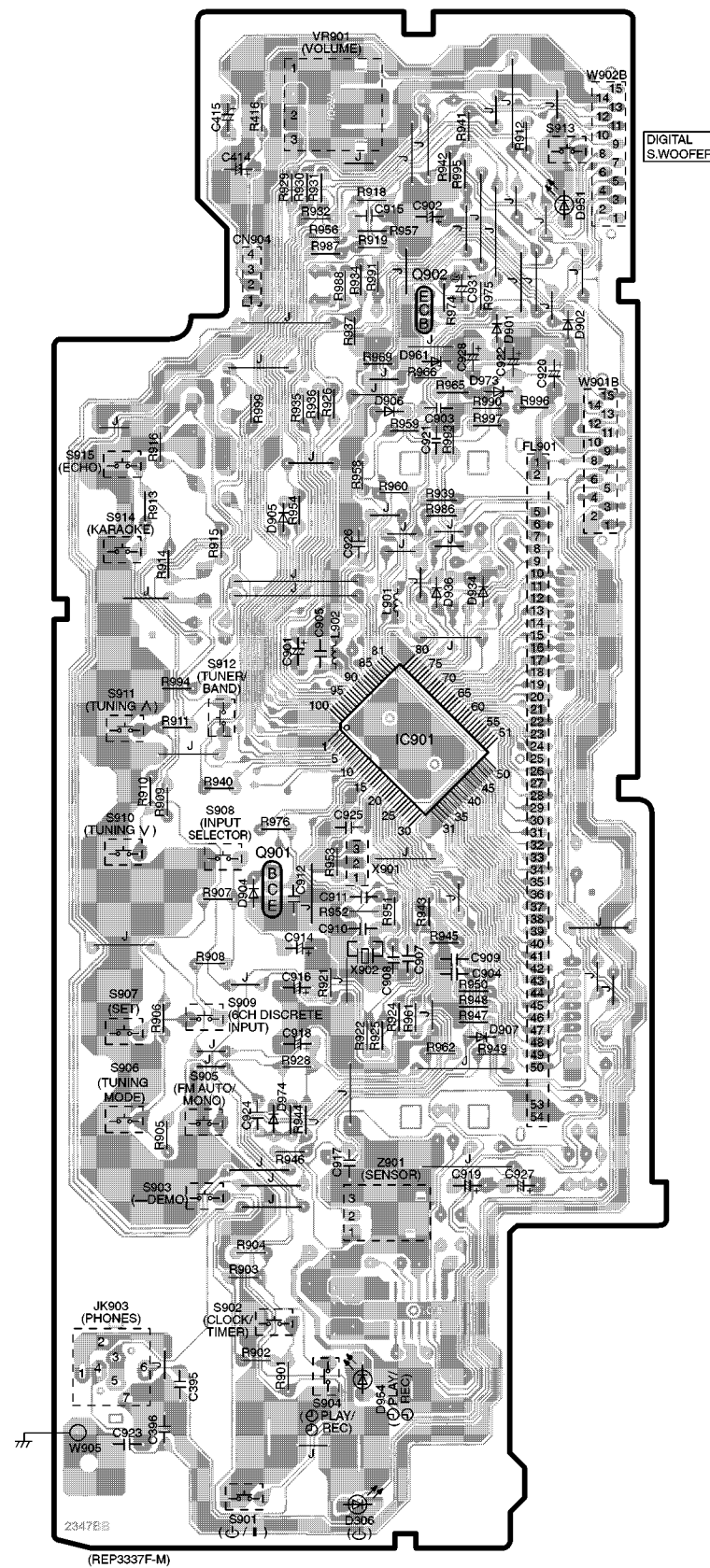
SCHEMATIC DIAGRAM-5



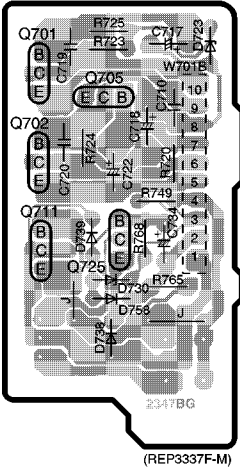
10 Printed Circuit Board Diagram

Note: This printed circuit board diagram may be modified at any time with the development of new technology.

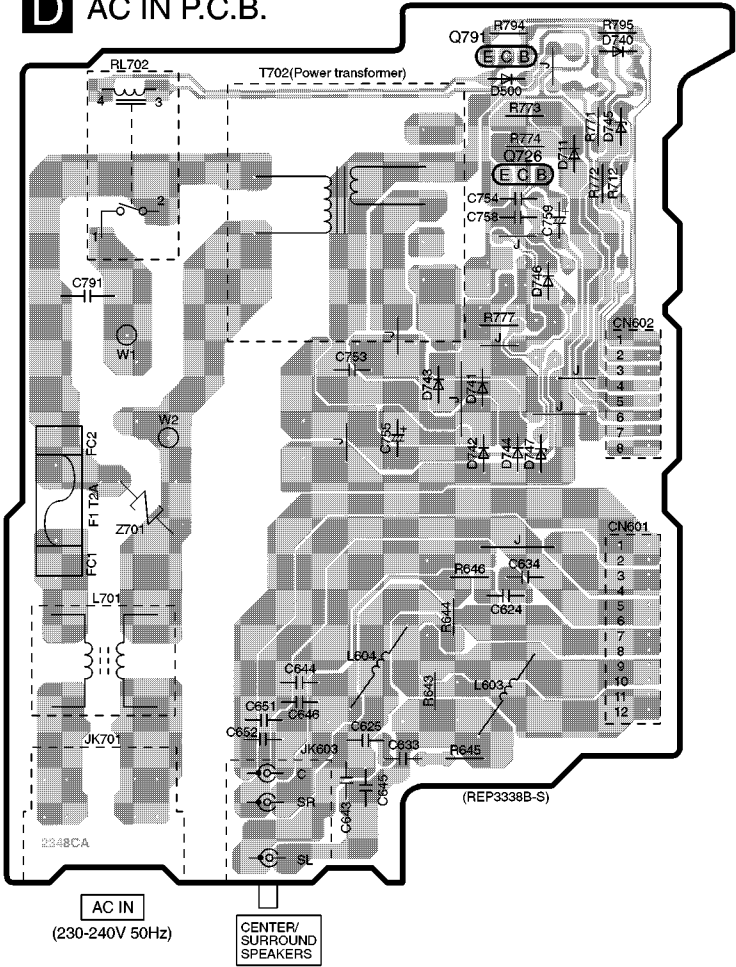
A OPERATION P.C.B.



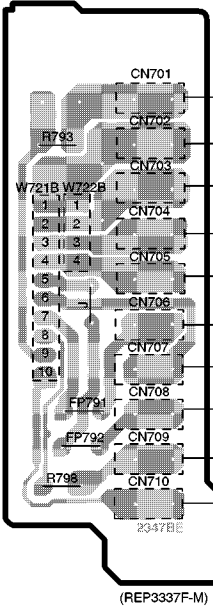
C POWER SUPPLY P.C.B.



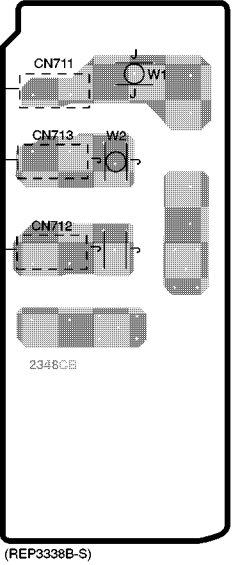
D AC IN P.C.B.



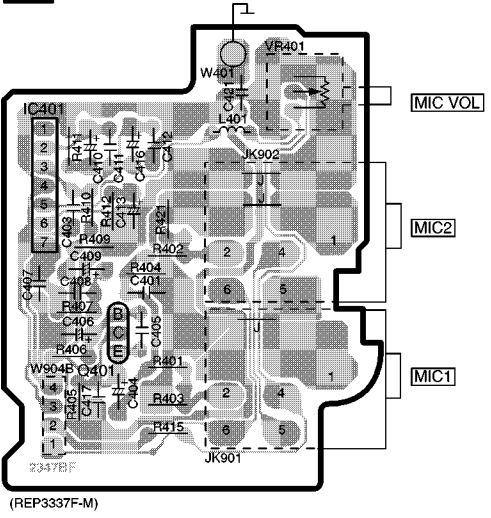
E POWER TRANSFORMER (A) P.C.B.



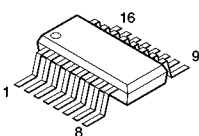
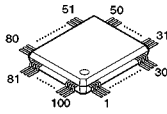
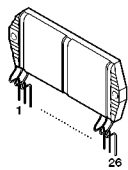
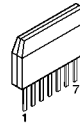
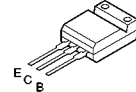
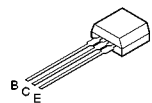
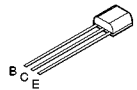
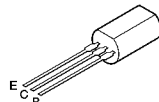
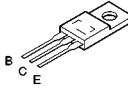
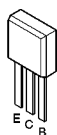
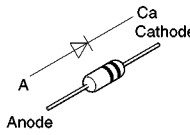
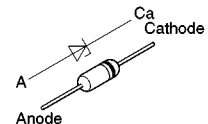
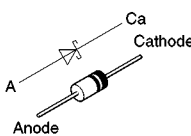
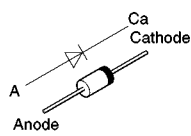
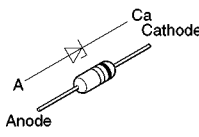
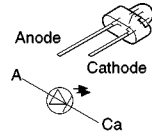
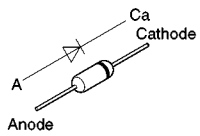
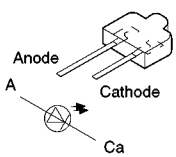
F POWER TRANSFORMER (B) P.C.B.



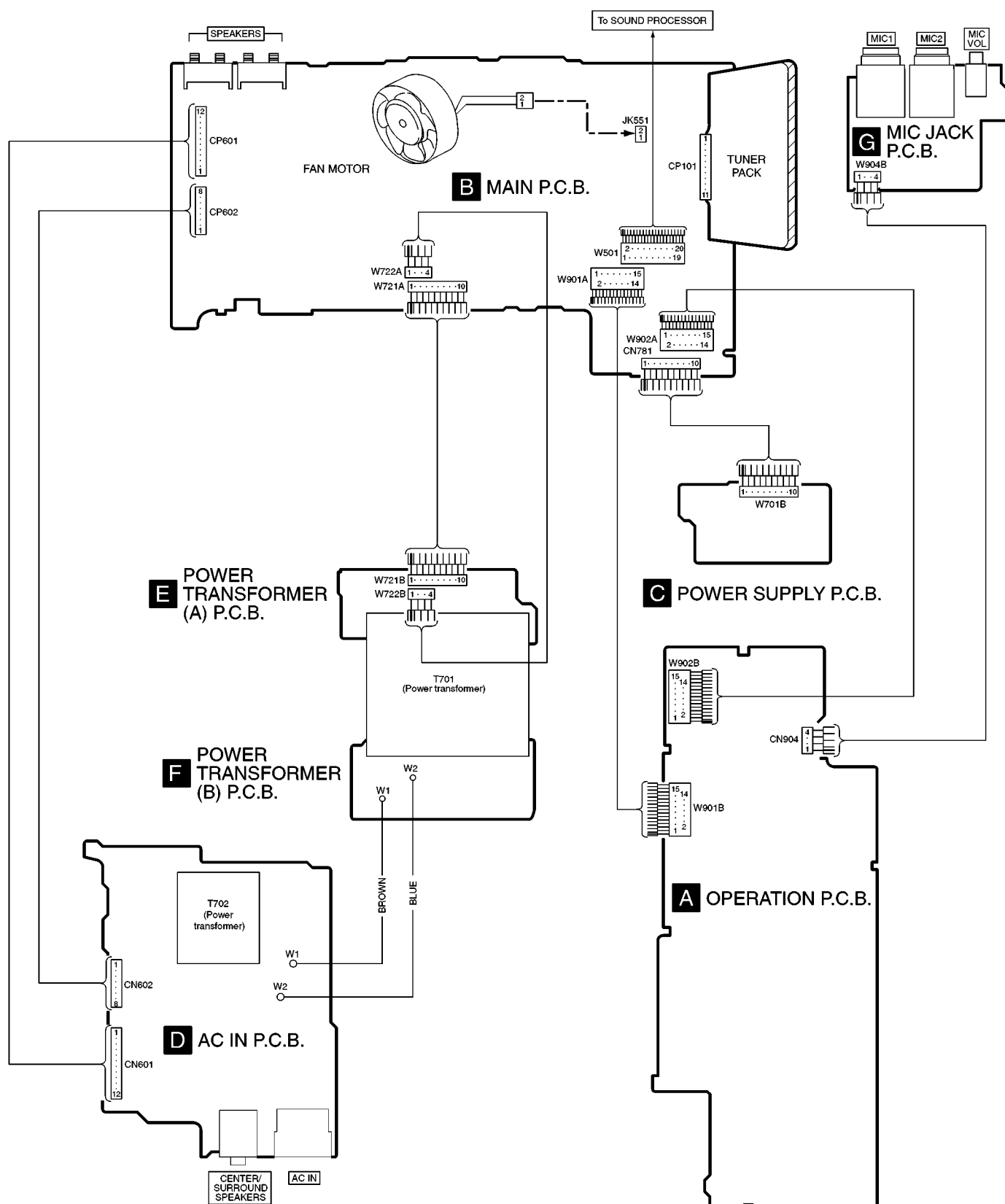
G MIC JACK P.C.B.



11 Type Illustration of ICs, Transistors and Diodes

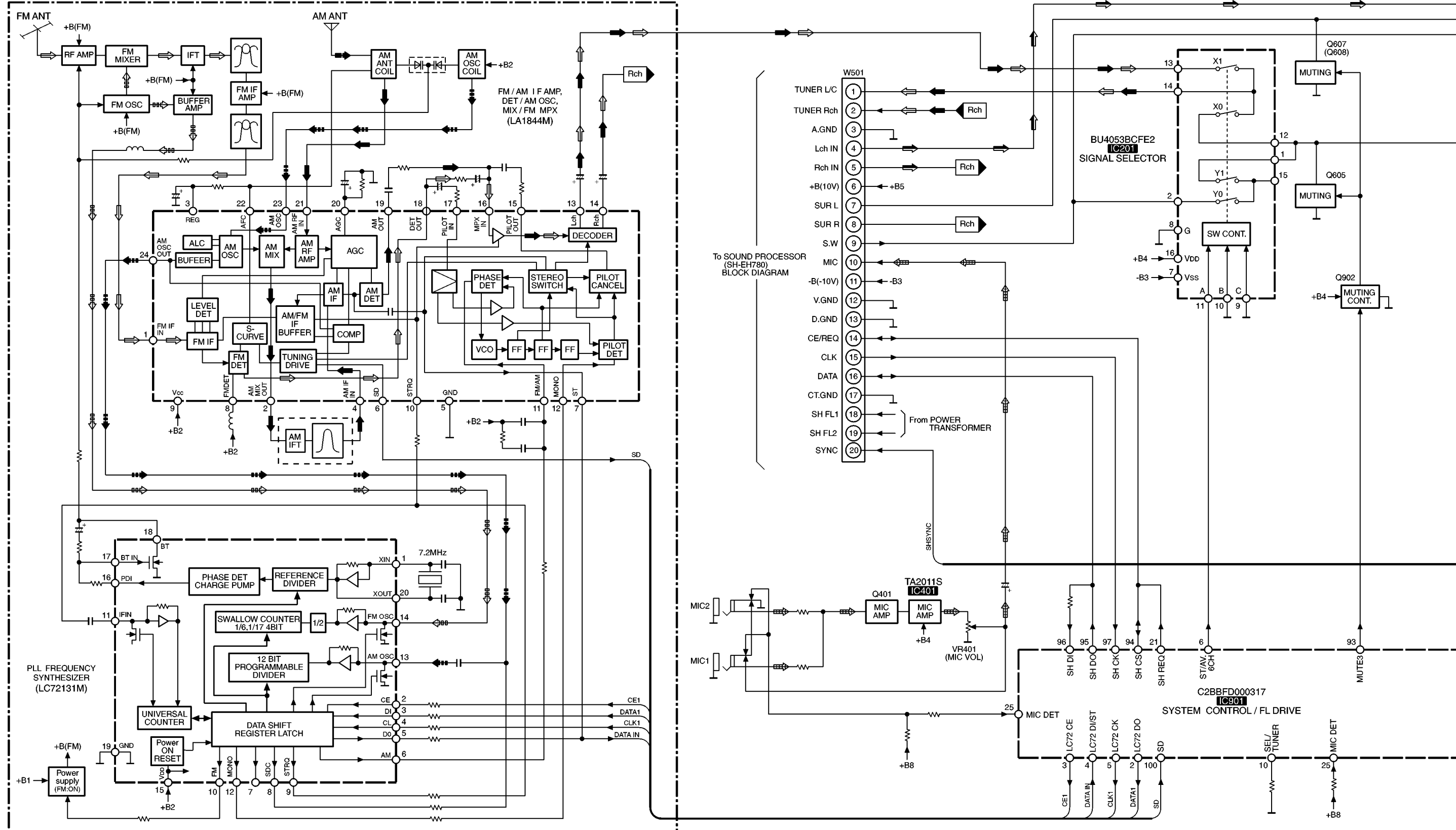
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2SA1995RSTA 2SC5398RSTA 	2SC3940AQSTA 	2SB1548PQAU 2SD2374PQAU 	UN411FTA UN4211TA UN4212TA 	1SS291TA MA700ATA 	MA4100MTA MA4150HTA MA4300MTA 
SB360L6508 	1N5402BM21 RL1N4003N02 		MA4030MTA MA4051MTA MA4056MTA MA4068LTA MA4075MTA MA4082LTA MA4091HTA	LNJ301MPUJAD 	MA165TA 
SELS5223C SELS5923C 					

12 Wiring Connection Diagram

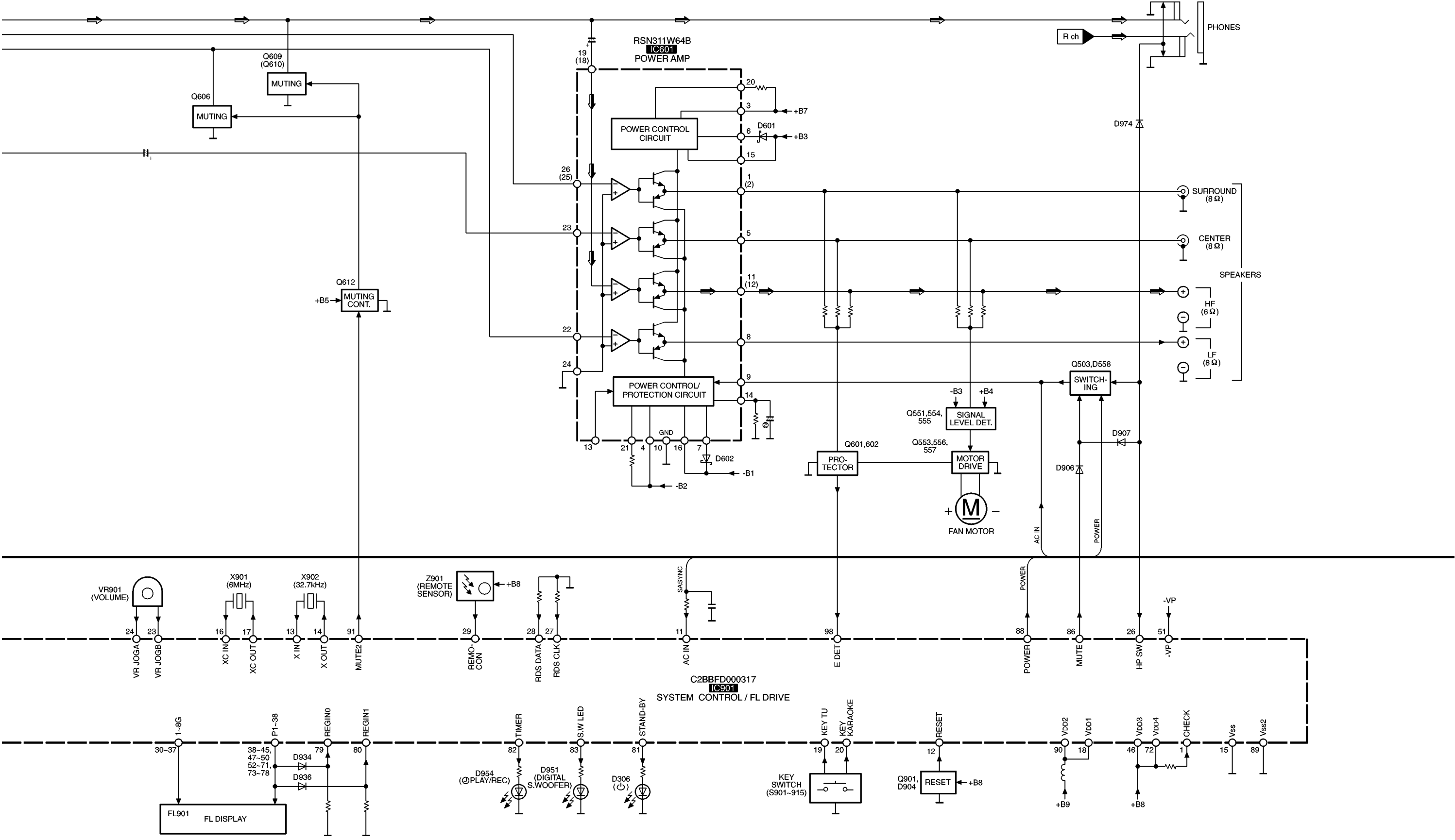


13 Block Diagram

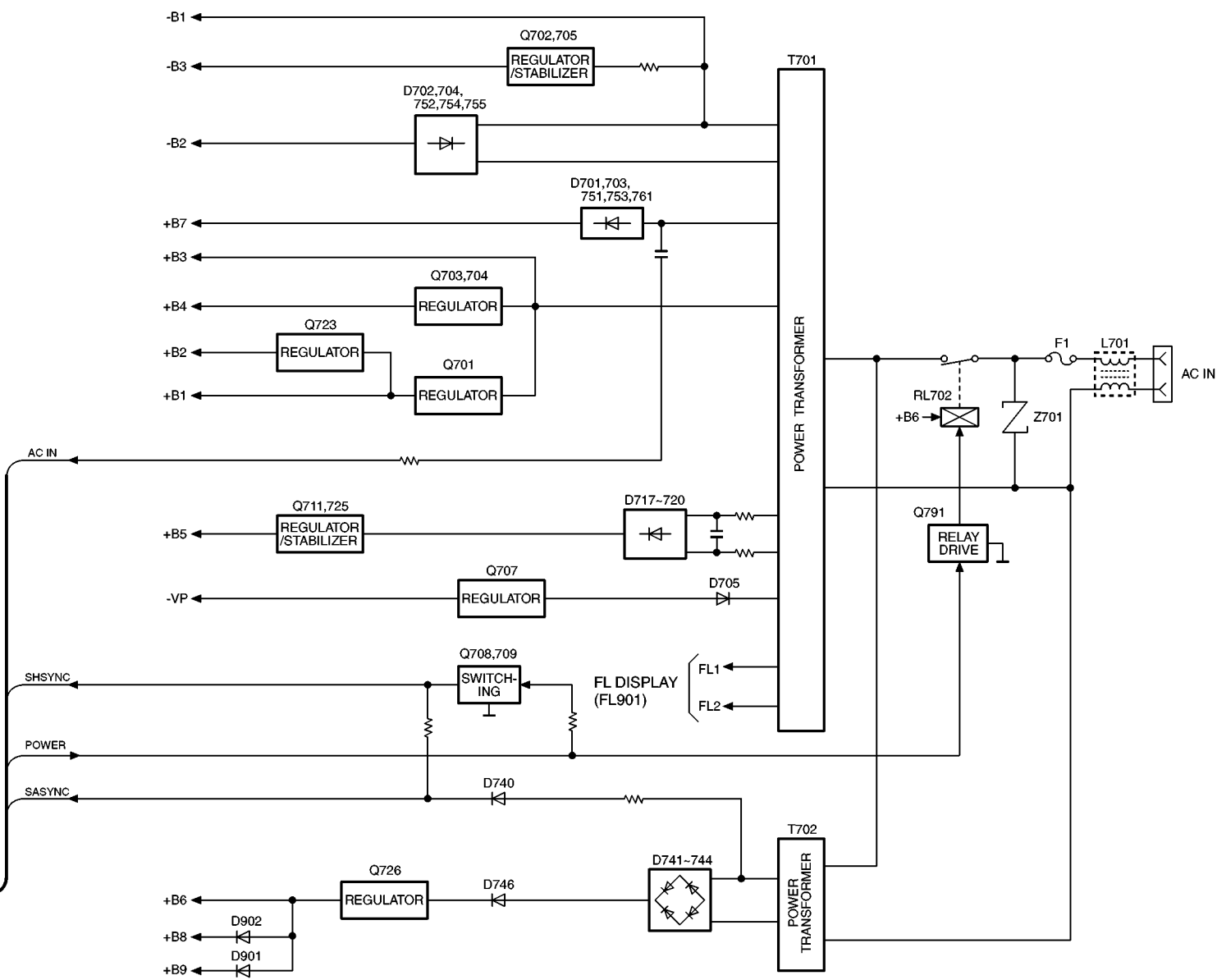
TUNER PACK(ENG06502Q)



SA-EH780(GN) BLOCK DIAGRAM



SA-EH780(GN) BLOCK DIAGRAM



14 Terminal Function of ICs

14.1. IC901 (C2BBFD000317): System Control/FL Drive

Pin No.	Terminal Name	I/O	Function
1	CHECK	I	Clock check signal input
2	LC72 DO	O	PLL data signal output for tuner unit (Z120)
3	LC72 CE	O	Chip enable signal output for tuner unit (Z120)
4	LC72 DI/ST	I	IF count data/stereo detect signal input from tuner unit (Z120)
5	LC72 CK	O	Clock signal output for tuner unit (Z120)
6	ST/AV. 6CH	O	Signal select output
7	NC	-	Not used, open
8			
9	SEL TUNER	-	Not used, open
10	SEL/ TUNER	-	Not used, connected to GND
11	AC IN	I	Power failure detect signal input
12	RESET	I	Reset signal input
13	X IN	I	Oscillator connected terminal (32.7 kHz)
14	X OUT	O	
15	V _{SS}	-	GND terminal
16	XC IN	I	Oscillator connected terminal (6 MHz)
17	XC OUT	O	
18	V _{DD} 1	I	Power supply terminal
19	KEY TU	I	Operation key signal input
20	KEY KARAOKE	I	Operation key signal input
21	SH REQ	I	Request signal input from Sound Processor
22	NC(GND)	-	Not used, connected to GND
23	VR JOGB	I	Volume control signal input
24	VR JOGA		
25	MIC DET	I	Microphone connecting detect signal input
26	HP SW	I	Headphone connecting detect signal input
27	RDS CLK	I	Not used, connected to GND
28	RDS DATA	I	Not used, connected to GND
29	REMO CON	I	Remote control signal input
30 37	8G 1G	O	Grid signal output
38 45	P1 P8	O	Segment signal output
46	V _{DD} 3	I	Power supply terminal
47 50	P9 P12	O	Segment signal output
51	-VP	I	Power supply terminal (Negative)
52 71	P13 P32	O	Segment signal output
72	V _{DD} 4	I	Power supply terminal
73 78	P33 P38	O	Segment signal output
79	REGIN0	-	Not used, connected to GND
80	REGIN1		
81	STANDBY	O	LED (STANDBY) drive signal output
82	TIMER	O	LED (TIMER) drive signal output
83	S.W.LED	O	LED (DIGITAL S.WOOFER) drive signal output
84	LOUNGE	-	LED (LOUNGE) drive signal output (Not used, connected to GND)

Pin No.	Terminal Name	I/O	Function
85	CHORUS	-	LED (CHORUS) drive signal output (Not used, connected to V _{DD})
86	MUTE	O	Muting signal output
87	NC	-	Not used, open
88	POWER	O	Power control signal output
89	V _{SS} 2	-	GND terminal
90	V _{DD} 2	I	Power supply terminal
91	MUTE2	O	Muting signal output
92	NC	-	Not used, open
93	MUTE3	O	Muting signal output
94	SH CS	I/O	Chip select signal input/output for Sound Processor
95	SH DO	O	Serial communication signal to Sound Processor (Data signal output)
96	SH DI	I	Serial communication signal to Sound Processor (Data signal input)
97	SH CK	I	Serial communication signal to Sound Processor (Clock signal input)
98	E DET	I	Unusual condition detect signal input
99	CR TIMER	-	Not used, open
100	SD	I	Station detector signal input from tuner unit (Z120)

15 Replacement Parts List

Notes:

- Important safety notice:

Components identified by Δ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

- The <IA> mark in Remarks indicate language of operating instructions.

<IA>: English

- The marking [RTL] indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.
- All parts are supplied by MESA.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RKM0395G-1S	TOP CABINET	1	
2	RHD30007-1S	SCREW	4	
3	XTBS3+10JFZ1	SCREW	1	
4	REX0967	SYSTEM CONNECT. ASS`Y (20P)	1	
5	RMQ1018	GASKET	1	
6	RGW0386-S	KNOB,VOLUME	1	
7	RHN90001	NUT	1	
8	RKA0106-N	FOOT RING	4	
9	RKF0606AA-K	BACK GRILL	1	
10	RKW0581-1V	FL WINDOW	1	
11	RMN0427A	CABLE HOLDER	1	
12	RYPL087A-N	FRONT PANEL UNIT	1	
12-1	RGB0025-A	TECHNICS BADGE	1	
13	SHG1654	RUBBER	4	
14	XTB3+10JFZ	SCREW	11	
15	XTB3+8JFZ	SCREW	13	
16	XTW3+15T	SCREW	2	
17	XTBS3+8JFZ1	SCREW	2	
18	RGW0178-N	KNOB,MIC	1	
19	RMN0582	HOLDER	1	
20	XTB3+12FFZ	SCREW	1	
21	XTB3+20JFZ	SCREW	1	
22	L6FAKKG0001	FAN UNIT	1	
23	RGN2332-K	NAME PLATE	1	
A1	EUR7702060	REMOTE CONTROLLER	1	
A1-1	UR64EC2337E	BATTERY COVER	1	
A2	REE0853	SPEAKER CORD (GLAY/BLUE)	2	
A3	REE1057	SPEAKER CORD (RED/BLACK)	2	
A4	RSA0022-L	AM LOOP ANTENNA	1	NIDA8YA00008
A5	RJA0035-2X	POWER SUPPLY CORD	1	Δ
A6	RQCA0801	QUICK SET-UP GUIDE	1	
A7	RQCB0169	SERVICE CENTER LIST	1	
A8	RQT6301-B	OPERATING INSTRUCTIONS	1	<IA>
A9	RSA0006-J	FM INDOOR ANTENNA	1	N1EAYY000001
C201,02	ECBT1H104KB5	50V 0.1U	2	F1D1H1040002
C371	ECA0JAK101XB	6.3V 100U	1	
C395,96	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C401	ECBT1H223KB5	50V 0.022U	1	F1D1H223A012
C403	ECBT1C472KR5	16V 4700P	1	F1D1C472A010
C404	RCE1HKA3R3BG	50V 3.3U	1	F2A1H3R3A015
C405	ECBT1H102KB3	50V 1000P	1	
C406	ECEA1EKS4R7	25V 4.7U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C407	ECBT1H103KB5	50V 0.01U	1	ECBT1H103KB3
C408	ECBT1H223KB5	50V 0.022U	1	F1D1H223A012
C409	ECEA1HKS010	50V 1U	1	
C410	RCE1CKS100BV	16V 10U	1	F2A1C100A034
C411	ECBA1H101KB5	50V 100P	1	
C412	ECBT1H102KB3	50V 1000P	1	
C413	ECEA1HKS010	50V 1U	1	
C414	ECA1CAM471XB	16V 470U	1	
C415	ECEA1HKS010	50V 1U	1	
C416	ECA1CAK100XB	16V 10U	1	
C417	ECBT1H223KB5	50V 0.022U	1	F1D1H223A012
C421	ECBT1H104KB5	50V 0.1U	1	F1D1H1040002
C509,10	ECBT1H103KB5	50V 0.01U	2	ECBT1H103KB3
C550	ECBT1H103KB5	50V 0.01U	1	ECBT1H103KB3
C551	ECA1HAK2R2XB	50V 2.2U	1	
C552	ECBT1H103KB5	50V 0.01U	1	ECBT1H103KB3
C554	ECA1CAM221XB	16V 220U	1	
C555,56	ECEA1CKN100B	16V 10U	2	
C559	ECBT1H103KB5	50V 0.01U	1	ECBT1H103KB3
C601,02	ECA1CAK100XB	16V 10U	2	
C603,04	ECBT1H471KB3	50V 470P	2	
C605,06	ECBT1H102KB3	50V 1000P	2	
C607,08	ECBT1H471KB3	50V 470P	2	
C609,10	ECBT1H560J3	50V 56P	2	
C611,12	ECBT1H150JC3	50V 15P	2	
C613,14	ECBT1H470J3	50V 47P	2	
C616	ECEA1HKNR47B	50V 0.47U	1	
C617,18	ECKR2H103ZU	500V 0.01U	2	
C619-21	ECBT1H104KB5	50V 0.1U	3	F1D1H1040002
C622	RCE1AKA101BG	10V 100U	1	F2A1A1010020
C624-31	ECBT1H104KB5	50V 0.1U	8	F1D1H1040002
C632	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C633,34	ECBT1H104KB5	50V 0.1U	2	F1D1H1040002
C635-37	ECBT1H473KB5	50V 0.047U	3	F1D1H473A012
C639-44	ECBT1H102KB3	50V 1000P	6	
C645,46	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C647-50	ECBT1H102KB3	50V 1000P	4	
C651	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C652	ECBT1H102KB3	50V 1000P	1	
C655,56	ECA1CAK100XB	16V 10U	2	
C659,60	ECA1CAK100XB	16V 10U	2	
C664	ECA1CAK100XB	16V 10U	1	
C701-04	F2B1V4720004	35V 4700U	4	
C705	ECBT1H103KB5	50V 0.01U	1	ECBT1H103KB3
C706	RCE1VKA100BG	35V 10U	1	F2A1V1000011
C707,08	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C709	ECQV1H104JM3	50V 0.1U	1	
C710	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C714	ECBT1H102KB3	50V 1000P	1	
C715	ECA1EAM472XE	25V 4700U	1	
C717	ECA1CAK330XB	16V 33U	1	
C718	ECA1EAM101XB	25V 100U	1	
C719,20	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C721	RCE1AKA101BG	10V 100U	1	F2A1A1010020
C722	ECA1EAM101XB	25V 100U	1	
C723,24	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C725	ECA1CAK470XB	16V 47U	1	
C731	ECBT1H102KB3	50V 1000P	1	
C732	ECBT1H223KB5	50V 0.022U	1	F1D1H223A012
C733	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C734	RCE1HKA3R3BG	50V 3.3U	1	F2A1H3R3A015
C735	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C737	ECA1HAM101XB	50V 100U	1	
C740	ECA1CAK100XB	16V 10U	1	
C741	ECQ81H104KF3	100V 0.1U	1	
C753	ECKR1H103ZF5	50V 0.01U	1	F1B1H1030001
C754	ECBT1H103KB5	50V 0.01U	1	ECBT1H103KB3
C755	ECA1CAML02X	16V 1000U	1	
C758	ECBT1H103KB5	50V 0.01U	1	ECBT1H103KB3
C759	RCE1AKA470BG	10V 47U	1	F2A1A470A011

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C761	ECQE1104KF3	100V 0.1U	1	
C791	ECKWRS102MBC	1000P	1	△ ;
C901	EEAFC0J101B	6.3V 100U	1	
C902	F2A1A102A018	10V 1000U	1	
C903,04	ECBT1H103KB5	50V 0.01U	2	ECBT1H103KB3
C905	ECBT1H102KB3	50V 1000P	1	
C907,08	ECBT1H471KB3	50V 470P	2	
C909	ECBT1H102KB3	50V 1000P	1	
C910	ECBT1H200JC5	50V 20P	1	F1D1H200A015
C911	ECBA1H180J5	50V 18P	1	F1D1H180A006
C912	ECBT1H104KB5	50V 0.1U	1	F1D1H1040002
C914	ECA1HAK2R2XB	50V 2.2U	1	
C915	ECBT1H103KB5	50V 0.01U	1	ECBT1H103KB3
C916	EEAFC0J101B	6.3V 100U	1	
C917	ECBT1H103KB5	50V 0.01U	1	ECBT1H103KB3
C918	ECA0JAK101XB	6.3V 100U	1	
C919,20	RCE1HKA4R7BG	50V 4.7U	2	F2A1H4R70009
C921	ECBT1H102KB3	50V 1000P	1	
C922	ECA1VAK330XB	35V 33U	1	
C923,24	ECBT1H104KB5	50V 0.1U	2	F1D1H1040002
C925,26	ECBT1H102KB3	50V 1000P	2	
C927,28	RCE1HKA4R7BG	50V 4.7U	2	F2A1H4R70009
C931	ECEA1CKN100B	16V 10U	1	
CN601	RJU057W012	CONNECTOR (12P)	1	K1KB12B00033
CN602	RJU057W008	CONNECTOR (8P)	1	K1KB08B00034
CN701-13	RJS1A1101T1	CONNECTOR (1P)	13	
CN781	RJS10T5ZA	CONNECTOR (10P)	1	K1MP10A00007
CN904	RJS4T5ZA	CONNECTOR (4P)	1	K1MP04A00007
CP101	RJT100W11	CONNECTOR (11P)	1	K1KA11A00093
CP601	RJT057W012-1	CONNECTOR (12P)	1	K1KA12A00160
CP602	RJT057W008-1	CONNECTOR (8P)	1	K1KA08A00187
D201	MAZ40560MF	DIODE	1	
D306	SELS5223C	LED	1	B3AAA0000486
D500	MA165	DIODE	1	MA2C165
D551,52	MA165	DIODE	2	MA2C165
D553	MA700	DIODE	1	MA2C700
D554	MA165	DIODE	1	MA2C165
D555	MA4100M	DIODE	1	MAZ41000MF
D558	MA165	DIODE	1	MA2C165
D581-83	RL1N4003N02	DIODE	3	B0AAMM000009
D601,02	SB360L6508	DIODE	2	B0JAPG000014
D607	1SS291TA	DIODE	1	
D611	MA4051M	DIODE	1	MAZ40510M
D657-59	MA165	DIODE	3	MA2C165
D701-04	1N5402BF	DIODE	4	
D705	RL1N4003N02	DIODE	1	B0AAMM000009
D711	RL1N4003N02	DIODE	1	B0AAMM000009
D717-20	RL1N4003N02	DIODE	4	B0AAMM000009
D721	MA4300M	DIODE	1	MAZ43000M
D723	MA4150-M	DIODE	1	MAZ41500M
D725	MA4082LTA	DIODE	1	MAZ40820LF
D730	MA4091H	DIODE	1	MAZ40910H
D737	MA4082LTA	DIODE	1	MAZ40820LF
D738-40	MA165	DIODE	3	MA2C165
D741-44	RL1N4003N02	DIODE	4	B0AAMM000009
D745	MA4051M	DIODE	1	MAZ40510M
D746	RL1N4003N02	DIODE	1	B0AAMM000009
D747	MA4068L	DIODE	1	MAZ40680L
D751,52	1N5402BF	DIODE	2	
D753-55	RL1N4003N02	DIODE	3	B0AAMM000009
D756,57	MA700	DIODE	2	MA2C700
D758	MA165	DIODE	1	MA2C165
D761	RL1N4003N02	DIODE	1	B0AAMM000009
D901,02	1SS291TA	DIODE	2	
D904	MA165	DIODE	1	MA2C165
D905	1SS291TA	DIODE	1	
D906,07	MA165	DIODE	2	MA2C165
D934	MA165	DIODE	1	MA2C165
D936	MA165	DIODE	1	MA2C165
D951	LNJ301MPUJAD	LED	1	

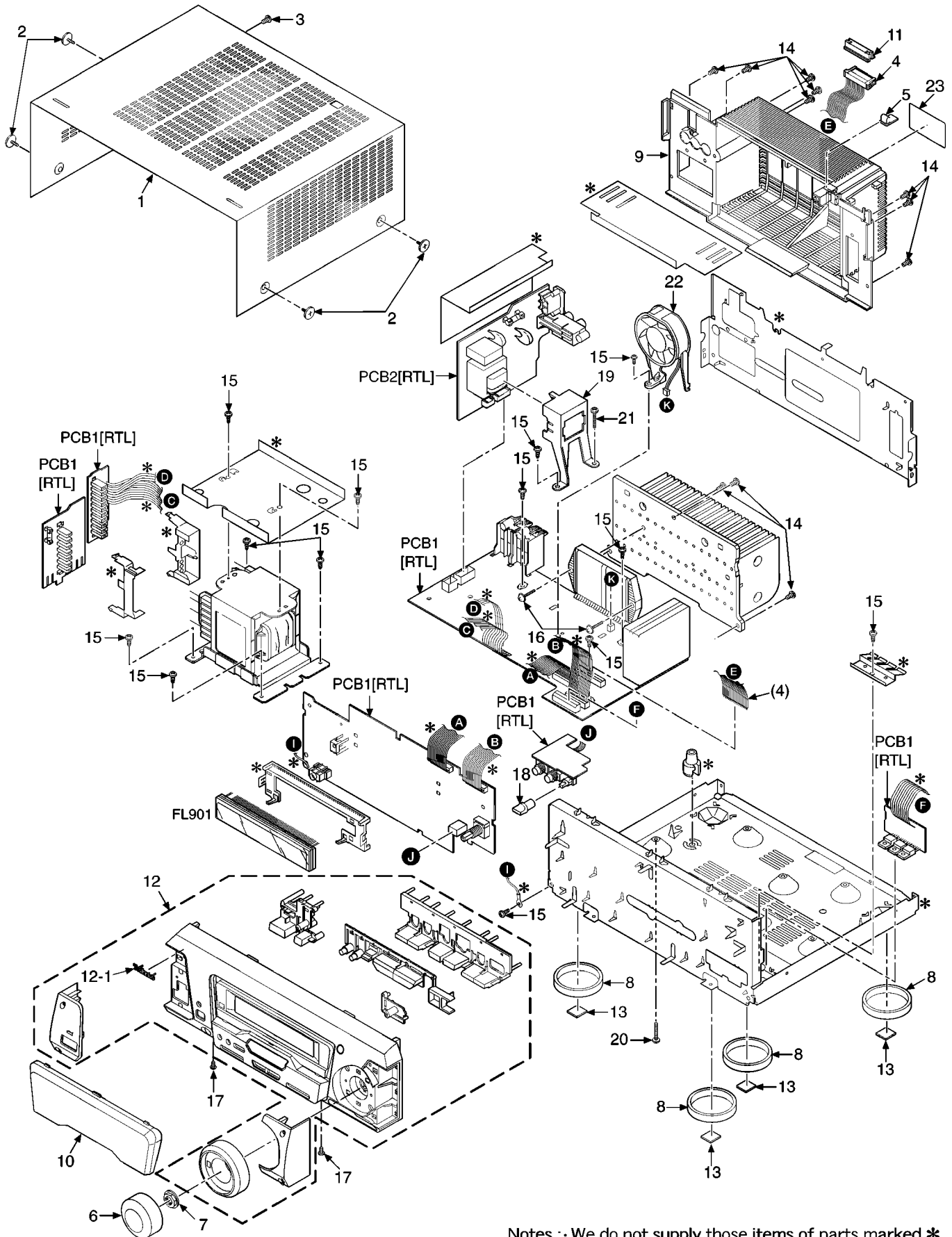
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D954	SELS5923C	LED	1	B3ADA0000083
D961	MA4075M	DIODE	1	MAZ40750M
D973	MA4030M	DIODE	1	MAZ40300M
D974	MA165	DIODE	1	MA2C165
F1	XBA2C20TB0	FUSE, T2A	1	△ K5D202BL0004
FL901	A2BB00000084	FL DISPLAY	1	
FP791,92	K5G402AA0002	FUSE PROTECTOR	2	△
IC201	BU4053BCFE2	IC	1	
IC401	TA2011S	IC	1	C1BA00000152
IC601	RSN311W64B	IC	1	
IC901	C2BBFD000317	IC	1	
JK551	K1KA02A00008	CONNECTOR (2P)	1	
JK601,02	K4BC04B00028	JK, SPEAKERS	2	
JK603	K2HA103B0015	JK, SPEAKERS	1	
JK701	K2AA2B000002	JK, AC INLET	1	△
JK901,02	RJJ65MA01	JK, MIC	2	K2HB102J0032
JK903	RJJ37TN02-C	JK, HEADPHONES	1	K2HC103A0009
L401	RLQA3R3JT1-Y	COIL	1	G0C3R3JA0019
L601-06	RLQYR73MW1-0	COIL	6	G0ZZ00001606
L701	RLQZ371	COIL	1	△ ELF15N035AN
L901	G0C100JA0019	COIL	1	
L902	G0C1R0JA0019	COIL	1	
P1	RPG6077	PACKING CASE (SYSTEM)	1	
P2	RPQ0951	PAD (SYSTEM)	1	
P3	RPG4397	PACKING CASE (RS)	1	
P3	RPG4396	PACKING CASE (SA)	1	
P3	RPG4398	PACKING CASE (SH)	1	
P3	RPG4399	PACKING CASE (SL)	1	
P4	RPN1195-2	PAD (RS)	1	
P4	RPN1194	PAD (SA)	1	
P4	RPN1196	PAD (SH)	1	
P4	RPN1197	PAD (SL)	1	
P5	RPF0139-1	PROTECTION BAG	1	
P6	RZR0020	SHEET	4	
PCB1	REP3337F-M	PCB ASS'Y	1	[RTL]
PCB2	REP3338B-S	PCB ASS'Y	1	[RTL]
Q401	2SC5398RSTA	TRANSISTOR	1	B1AACF000059
Q503	2SC5398RSTA	TRANSISTOR	1	B1AACF000059
Q551	2SA1995RSTA	TRANSISTOR	1	B1ACDF000006
Q553	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q554	2SA1995RSTA	TRANSISTOR	1	B1ACDF000006
Q555	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q556	2SC5398RSTA	TRANSISTOR	1	B1AACF000059
Q557	2SA1995RSTA	TRANSISTOR	1	B1ACDF000006
Q601,02	2SC5398RSTA	TRANSISTOR	2	B1AACF000059
Q605-10	2SD2144S	TRANSISTOR	6	B1AAGC000006
Q612	UN411FTA	TRANSISTOR	1	UNR411F00A
Q701	2SD2374PQAU	TRANSISTOR	1	2SD23740J1AU
Q702	2SB1548PQAU	TRANSISTOR	1	2SB15480J1AU
Q703,04	2SD2137PQTA	TRANSISTOR	2	2SD21370PA
Q705	2SA1995RSTA	TRANSISTOR	1	B1ACDF000006
Q707	2SB1417PQTA	TRANSISTOR	1	2SB14170JA
Q708	UN4211	TRANSISTOR	1	UNR4211
Q709	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q711	2SB1548PQAU	TRANSISTOR	1	2SB15480J1AU
Q723	2SC3940AQSTA	TRANSISTOR	1	2SC3940ARA
Q725	2SC5398RSTA	TRANSISTOR	1	B1AACF000059
Q726	2SC3940AQSTA	TRANSISTOR	1	2SC3940ARA
Q791	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q901	UN4212TA	TRANSISTOR	1	UNR421200A
Q902	UN411FTA	TRANSISTOR	1	UNR411F00A

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R202-05	ERDS2FJ104	1/4W 100K	4	
R211	ERDS2FJ271	1/4W 270	1	
R229,30	ERDS2FJ102	1/4W 1K	2	
R401,02	ERDS2FJ681	1/4W 680	2	
R403	ERDS2FJ223	1/4W 22K	1	
R404	ERDS2FJ471	1/4W 470	1	
R405	ERDS2FJ472	1/4W 4.7K	1	
R406	ERDS2FJ474	1/4W 470K	1	
R407	ERDS2FJ472	1/4W 4.7K	1	
R409	ERDS2FJ472	1/4W 4.7K	1	
R410	ERDS2FJ222	1/4W 2.2K	1	
R411	ERDS2FJ331	1/4W 330	1	
R412	ERDS2TJ105T	1/4W 1M	1	
R415	ERDS2FJ471	1/4W 470	1	
R416	ERDS2FJ331	1/4W 330	1	
R421	ERDS2FJ223	1/4W 22K	1	
R509-12	ERDS2FJ470	1/4W 47	4	
R544	ERDS2FJ103	1/4W 10K	1	
R546,47	ERDS2TJ183	1/4W 18K	2	
R551	ERDS2TJ183	1/4W 18K	1	
R552	ERDS2FJ473	1/4W 47K	1	
R555	ERDS2FJ223	1/4W 22K	1	
R556	ERDS2FJ104	1/4W 100K	1	
R557	ERDS2FJ103	1/4W 10K	1	
R558	ERDS2FJ222	1/4W 2.2K	1	
R559	ERDS2FJ472	1/4W 4.7K	1	
R560,61	ERDS2FJ104	1/4W 100K	2	
R563,64	ERDS2TJ272T	1/4W 2.7K	2	
R566	ERDS2FJ683	1/4W 68K	1	
R567	ERGLSJ220	1W 22	1	
R568	ERDS2FJ101	1/4W 100	1	
R569	ERDS2FJ103	1/4W 10K	1	
R570	ERDS2TJ225	1/4W 2.2M	1	
R572	ERDS2FJ153	1/4W 15K	1	
R591	ERDS2FJ472	1/4W 4.7K	1	
R597,98	ERDS2FJ222	1/4W 2.2K	2	
R601-04	ERDS2FJ332	1/4W 3.3K	4	
R605,06	ERDS2FJ472	1/4W 4.7K	2	
R607,08	ERDS2FJ563	1/4W 56K	2	
R609,10	ERDS2FJ154	1/4W 150K	2	
R611,12	ERDS2FJ563	1/4W 56K	2	
R614,15	ERDS2FJ472	1/4W 4.7K	2	
R617,18	ERDS2FJ472	1/4W 4.7K	2	
R619,20	ERDS2TJ124	1/4W 120K	2	
R621	ERDS2FJ154	1/4W 150K	1	
R622,23	ERDS2TJ124	1/4W 120K	2	
R624	ERDS2FJ154	1/4W 150K	1	
R627	ERDS2FJ474	1/4W 470K	1	
R628	ERDS2FJ223	1/4W 22K	1	
R631,32	ERDS2TJ392T	1/4W 3.9K	2	
R635	ERDS2FJ222	1/4W 2.2K	1	
R637	ERDS2FJ153	1/4W 15K	1	
R638	ERDS2FJ683	1/4W 68K	1	
R639,40	ERDS1FJ100	1/2W 10	2	
R641,42	ERDS2FJ100	1/4W 10	2	
R643,44	ERDS1FJ100	1/2W 10	2	
R645,46	ERDS2FJ100	1/4W 10	2	
R647	ERDS2FJ391	1/4W 390	1	
R648	ERD2FCG121	1/4W 120	1	
R649-52	ERDS1FJ100	1/2W 10	4	
R683-86	ERDS2FJ102	1/4W 1K	4	
R687,88	ERDS2FJ152	1/4W 1.5K	2	
R691	ERDS1FJ151	1/2W 150	1	
R692,93	ERDS2FJ102	1/4W 1K	2	
R694	ERDS2FJ223	1/4W 22K	1	
R695	ERDS2FJ471	1/4W 470	1	
R696	ERDS2FJ473	1/4W 47K	1	
R708	ERDS2FJ472	1/4W 4.7K	1	
R712	ERDS2FJ222	1/4W 2.2K	1	
R719	ERDS2FJ332	1/4W 3.3K	1	
R720	ERDS2TJ392T	1/4W 3.9K	1	
R721	ERD2FCJ4R7	1/4W 4.7	1	
R722	ERQ16NKG2R2E	1/6W 2.2	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R723	ERDS2FJ562	1/4W 5.6K	1	
R724	ERDS2TJ392T	1/4W 3.9K	1	
R725	ERDS2FJ100	1/4W 10	1	
R727	ERDS2TJ392T	1/4W 3.9K	1	
R729	ERDS2FJ221	1/4W 220	1	
R738	ERDS2TJ392T	1/4W 3.9K	1	
R739	ERDS2FJ473	1/4W 47K	1	
R749	ERDS2FJ102	1/4W 1K	1	
R763	ERDS2FJ472	1/4W 4.7K	1	
R764	ERDS2FJ331	1/4W 330	1	
R765	ERDS1FJ221	1/2W 220	1	
R767	ERGLSJ270	1W 27	1	
R768	ERDS2FJ101	1/4W 100	1	
R769	ERGLSJ270	1W 27	1	
R771	ERDS2FJ222	1/4W 2.2K	1	
R772	ERDS2FJ223	1/4W 22K	1	
R773,74	ERDS1FJ180	1/2W 18	2	
R776	ERDS2FJ103	1/4W 10K	1	
R777	ERDS2FJ102	1/4W 1K	1	
R793	ERDS2TJ1R0	1/4W 1.0	1	
R794	ERDS2FJ473	1/4W 47K	1	
R795	ERDS2TJ392T	1/4W 3.9K	1	
R796,97	ERDS2FJ2R2	1/4W 2.2	2	
R798	ERQ16NKG2R2E	1/6W 2.2	1	
R901	ERDS2FJ821	1/4W 820	1	
R902	ERDS2FJ102	1/4W 1K	1	
R903	ERDS2FJ122	1/4W 1.2K	1	
R904	ERDS2FJ152	1/4W 1.5K	1	
R905	ERDS2FJ182	1/4W 1.8K	1	
R906	ERDS2FJ222	1/4W 2.2K	1	
R907	ERDS2FJ332	1/4W 3.3K	1	
R908	ERDS2FJ472	1/4W 4.7K	1	
R909	ERDS2FJ182	1/4W 1.8K	1	
R910	ERDS2FJ222	1/4W 2.2K	1	
R911	ERDS2FJ332	1/4W 3.3K	1	
R912	ERDS2FJ472	1/4W 4.7K	1	
R913	ERDS2FJ821	1/4W 820	1	
R914	ERDS2FJ102	1/4W 1K	1	
R915	ERDS2FJ122	1/4W 1.2K	1	
R916	ERDS2FJ152	1/4W 1.5K	1	
R918	ERDS2FJ103	1/4W 10K	1	
R919	ERDS2FJ153	1/4W 15K	1	
R921,22	ERDS2FJ103	1/4W 10K	2	
R924,25	ERDS2FJ102	1/4W 1K	2	
R926	ERDS2FJ222	1/4W 2.2K	1	
R928	ERDS2FJ473	1/4W 47K	1	
R929-32	ERDS2FJ102	1/4W 1K	4	
R934-36	ERDS2FJ101	1/4W 100	3	
R937	ERDS2FJ103	1/4W 10K	1	
R939	ERDS2FJ152	1/4W 1.5K	1	
R940,41	ERDS2FJ102	1/4W 1K	2	
R942	ERDS2FJ222	1/4W 2.2K	1	
R943	ERDS2FJ101	1/4W 100	1	
R944	ERDS2FJ222	1/4W 2.2K	1	
R945	ERDS2FJ101	1/4W 100	1	
R946	ERDS2FJ102	1/4W 1K	1	
R947,48	ERDS2FJ104	1/4W 100K	2	
R949	ERDS2FJ472	1/4W 4.7K	1	
R950	ERDS2FJ101	1/4W 100	1	
R951	ERDS2FJ334	1/4W 330K	1	
R952	ERDS2TJ106T	1/4W 10M	1	
R953	ERDS2FJ101	1/4W 100	1	
R954	ERDS2FJ104	1/4W 100K	1	
R956-58	ERDS2FJ102	1/4W 1K	3	
R959	ERDS2FJ470	1/4W 47	1	
R960	ERDS2FJ152	1/4W 1.5K	1	
R961,62	ERDS2FJ223	1/4W 22K	2	
R965,66	ERDS2TJ392T	1/4W 3.9K	2	
R969	ERDS2TJ272T	1/4W 2.7K	1	
R974	ERDS2FJ102	1/4W 1K	1	
R975	ERDS2FJ223	1/4W 22K	1	
R976	ERDS2FJ104	1/4W 100K	1	
R986	ERDS2FJ152	1/4W 1.5K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R987,88	ERDS2FJ102	1/4W 1K	2	
R990	ERDS2FJ104	1/4W 100K	1	
R991	ERDS2FJ473	1/4W 47K	1	
R993,94	ERDS2FJ104	1/4W 100K	2	
R995	ERDS2FJ221	1/4W 220	1	
R996,97	ERDS2FJ151	1/4W 150	2	
R999	ERDS2FJ104	1/4W 100K	1	
RL702	RSY0040M-0	RELAY	1	△
S901-15	EVQ11G05R	SW,OPERATION	15	
T701	RTP2N5B012	POWER TRANSFORMER	1	△ ETP76VST71SA
T702	RTP1H3E001	POWER TRANSFORMER	1	△ ETP28KBZ21BG
VR401	EVUE27FK3B53	V.R.,MIC VOL.	1	
VR901	EVQVBXFK124B	V.R.,VOLUME	1	
X901	EF0EC6004T4	OSCILLATOR	1	EF0EC6004T4
X902	RSXD32K7S02	OSCILLATOR	1	H0A327200027
Z120	ENG06502Q	TUNER PACK	1	
Z701	ENC471D5A	ZNR	1	△ J0LG00000008
Z901	B3RAD0000028	REMOTE SENSOR	1	

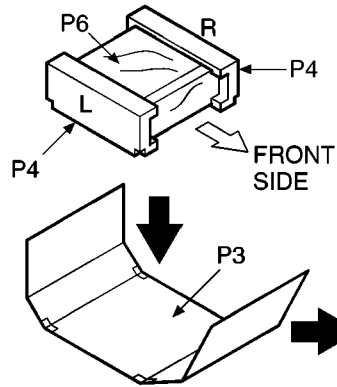
16 Cabinet Parts Location



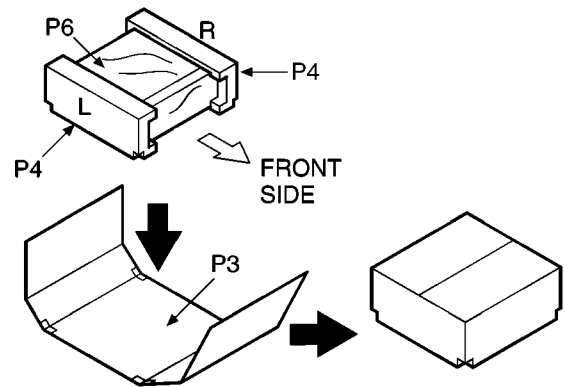
Notes :· We do not supply those items of parts marked *.
· This "PCB1" is a combination PCB.

17 Packaging

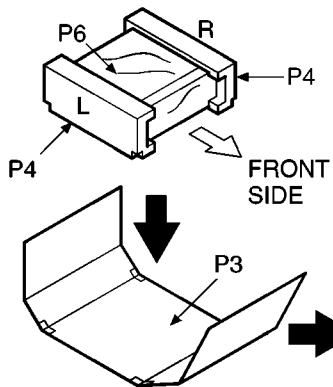
Sound Processor: SH-EH780



CD Changer: SL-EH780



Cassette Deck : RS-DV280



Tuner/Amplifier : SA-EH780

